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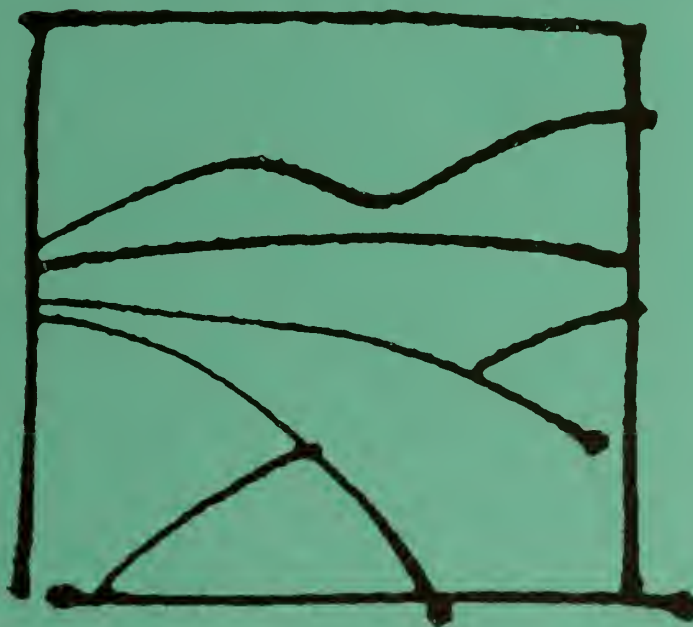
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Agricultural Safety and Health: A Resource Guide

Rural Information Center Publication Series, No. 16

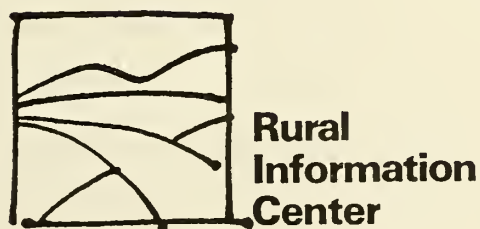


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Agricultural Safety and Health: A Resource Guide

**Compiled by Joy Zimmerman
Rural Information Center**

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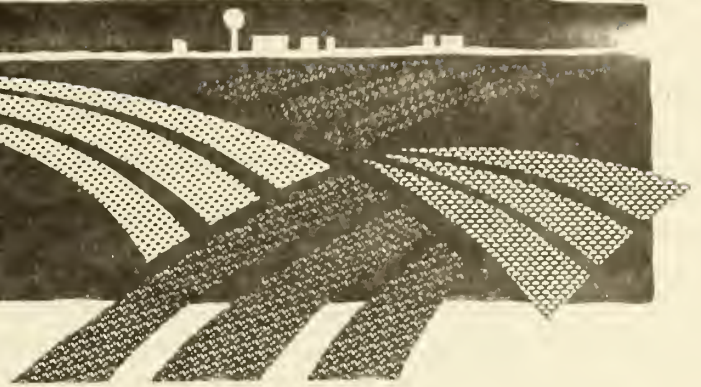
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Rural Information Center

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Beltsville, Maryland 20705



The **Rural Information Center (RIC)** is a joint project of the Extension Service and the National Agricultural Library (NAL). RIC provides information and referral services to local government officials, community organizations, health professionals and organizations, cooperatives, libraries, businesses, and rural citizens working to maintain the vitality of America's rural areas. The Center combines the technical, subject-matter expertise of Extension's nationwide educational network with the information specialists and resources of the world's foremost agricultural library.

The Office of Rural Health Policy in the Department of Health and Human Services (DHHS) and the NAL jointly created a Rural Information Center Health Service (RICHS) as part of the RIC. RICHS collects and disseminates information on rural health issues, research findings related to rural health, and innovative approaches to the delivery of rural health care services.

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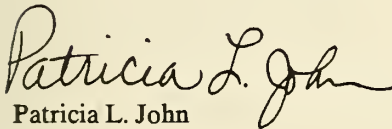
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FOREWORD

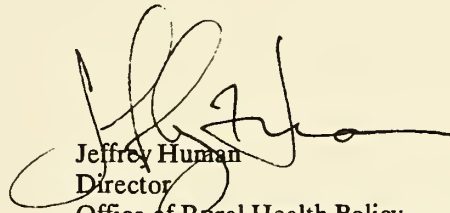
We are pleased to present this guide, *Agricultural Safety and Health: A Resource Guide*, which was prepared by the Rural Information Center Health Service (RICHS) of the NAL's Rural Information Center, and supported by the Office of Rural Health Policy, DHHS. Both agencies are committed to seeking solutions to health care problems in rural America.

The loss of our farmers and farmworkers to work-related disease and injury is one of the most critical health issues facing the nation. The incidence of agriculturally-related fatalities, disabling injuries, and disease makes agriculture one of the nation's most dangerous occupations.

This publication is intended as a resource for farmers and farmworkers, extension agents, researchers, policymakers, and health personnel. The books, articles, reports, training materials, and audiovisual materials referenced in this guide address agricultural occupational injuries and disease, and their prevention. The guide also provides a list of national and regional organizations involved in agricultural safety and health.



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This publication contains material that is considered accurate, readable and available. The opinions expressed in this publication do not necessarily reflect the views of the United States Department of Agriculture. Inclusion of publications and software databases in this publication does not imply product endorsement.

INTRODUCTION

Agriculture is one of our nation's most dangerous occupations. Statistics from the National Safety Council tell us that farm injuries claim the lives of some 1,300 agricultural workers each year. An estimated 120,000 additional farmworkers are injured, half of them permanently.

Since the farm is often a home as well as a workplace for farm and migrant families, spouses, children, and adolescents also are exposed daily to this hazardous environment. It has been estimated that 300 children and adolescents die each year from farm injuries, and an additional 23,500 are injured (Rivara, 1985).

Farmers, farmworkers, and farm families are also at risk for a wide range of agriculturally-related diseases. In addition to acute illness, farmers and farmworkers suffer from work-related respiratory disorders, dermatitis, noise-induced hearing loss, certain cancers, musculoskeletal disorders, and reproductive disorders.

If progress is to be made in improving the health and safety of the agricultural workforce, the occupational risks and preventive techniques must be understood by farmers and farmworkers, as well as by health personnel who treat ill and injured workers and their families. This selected list of references represents an attempt to collect information on various aspects of agricultural safety and health. The list is by no means exhaustive.

Categories in the first section of the guide address general information, research and statistics, emergency care and rescue, education and prevention, and occupational risks and interventions. A separate section on children is included.

The second section covers the audiovisual materials that are available, grouping them by categories. The last section provides brief descriptions of national and regional agricultural safety and health organizations and contact information.

The documents with NAL call numbers are available at the National Agricultural Library. Other cited references may be obtained through a local public library or a local or regional medical library. Some information is available from the contact sources provided in this document.

PUBLICATIONS: General Information

1

"America's Deadly Harvest." D.G. Lowery and N. Dorman-Hickson. *Progressive Farmer*, Vol. 105(9), September 1990, pp. 25-31. NAL Call No.: S1.P7.

This article provides photos and summaries of men, women, and children who were killed in farming accidents in October 1989. Family members of the victims advise farmers to know their machinery's limitations, know their own limitations, use common sense, and use a buddy system.

2

"Better Safe." H. Aponte. *Sun Diamond Grower*, Vol. 6(3), Fall 1987, pp. 34-35. NAL Call No.: SB401.A1D5.

This short article reviews agricultural safety issues and presents strategies for promoting safety, including effective training programs, proper tractor operation, and safe clothing. The article also lists agricultural safety resources, although most are specific to California.

3

"Cost of Farm and Rural Injuries." M.A. Purschwitz and W.E. Field. *Public Health Reports*, Vol. 102(6), November-December 1987, pp. 642-644. NAL Call No.: 151.65 P96.

The authors discuss the amount that the government has spent on farm safety programs, and the causes and costs of agricultural accidents. Recommendations for reducing the losses associated with farm accidents are included.

4

"The Deadliest Profession." M. Gaige. *Farm Journal*, Vol. 112(11), September 1988, pp. 17-19. NAL Call No.: 6 F2212.

Arguing that insufficient attention is given to the issue of farm safety, the author compares the funding for farm safety with the funding for other industries. The article also discusses the difficulty of collecting farm accident statistics and the incidence of farm accidents among children. The accounts of a fatal and a nearly fatal accident are included.

5

"Epidemiology of Farm Injuries." P.M. Layde. *The Marshfield Clinic Bulletin*, Vol. 2(20), Spring 1989, pp. 4-12.

This article discusses the epidemiology of farm injuries and their circumstances and characteristics. Prospects for prevention are presented, including the role of rural physicians in influencing the safety behavior of farmers.

6

"Farm Accidents and Injuries Among Farm Families and Workers: A Pilot Study." P.H. Cummings. *American Association of Occupational Health Nurses Journal*, Vol. 39(9), September 1991, pp. 409-415.

To examine and update information on accidents among farm families and workers, a one-year pilot study was undertaken in a representative farm county in South Carolina. Since traditional methods of collecting these data are difficult and time-consuming, the author developed a questionnaire which was mailed to farmers. He concluded, however, that this method is ineffective since farmers are often hesitant to report accidents.

7

"Farm Safety and Federal Responses to Occupational Health." T.W. Kelsey. *The Journal of Rural Health*, Vol. 7(3), Summer 1991, pp. 287-292. NAL Call No.: RA771.A1J68.

The author discusses recent agricultural safety history and the conflicting interests of safety policies. The federal response to farm safety is complicated by the fact that most farmers who would be protected by safety regulations would also be restricted by them.

8

"Farm Stressors." K.R. Olson and R.P. Schellenberg. *American Journal of Community Psychology*, Vol. 14(5), 1986, pp. 555-569.

The authors review the literature on farm stressors, which are described as familial or extrafamilial stressors. Extrafamilial stressors, primarily financial concerns, have increased for farm families. The authors recommend educational programs, political action, and supportive social agencies, such as farm crisis hot lines and support groups.

9

"Farmworker Occupational Health and Safety in the 1990s." V. Wilk and D.M. Hancock. *New Solutions*, Vol. 1(4), Spring 1991, pp. 6-10.

This article discusses issues facing farmworkers such as economic and workplace health and safety inequities. These inequities include significant exclusions under the Fair Labor Standards Act, the lack of "Workplace Right To Know" regarding pesticide use, and less stringent workplace safety protections for children.

10

"The Health Effects of Agricultural Production." M.J. Coye. In *New Directions for Agriculture and Agricultural Research: Neglected Dimensions and Emerging Alternatives*. K.A. Dahlberg, editor. Totowa, NJ: Rowman & Allanheld, 1986, pp. 165-198. NAL Call No.: S541.N49.

This chapter discusses the changes in agricultural production processes and their effects on the health of agricultural workers and the general public. The need for integrating public health concerns and agricultural research and development is also presented.

11

"Health Risks in Agriculture." J.M. Geller and R.L. Ludtke. In *Rural Health Nursing*. Angeline Bushy, editor. Beverly Hills, CA: Sage Publications, Vol. 1, 1991, pp. 334-347.

This chapter provides an overview of various types of health risks in agriculture. These include accidents, diseases or ailments from hazards in the farm environment, and risks due to limited access to the health care system.

12

Hired Farmworkers: Health and Well-Being at Risk. Washington, D.C.: U.S. General Accounting Office, 1992. 31 p. HRD-92-46. Available from U.S. General Accounting Office, P.O. 6015, Gaithersburg, MD 20877, 202/275-6241.

This publication investigates the extent to which current federal laws, regulations, and programs protect the health and well-being of hired farmworkers. The findings indicated that farmworkers have inadequate protection from pesticides, inadequate field sanitation, and less protection for their children on farms. Farmworkers' medical needs are not met by federal health care programs, and they receive fewer Social Security benefits.

13

"Injuries in Agriculture: A Review of the Literature." B. Jansson. *International Journal of Environmental Studies*, Vol. 33(1), 1989, pp. 45-52. NAL Call No.: QH540.I55.

To promote the transfer of knowledge about agricultural safety between countries, the author reviewed literature from the Nordic countries, Europe, United States, Canada, and other countries. The reference list is extensive and demonstrates different approaches and levels of interest among various countries.

14

"Issues in Agricultural Health and Safety." J.J. May. *American Journal of Industrial Medicine*, Vol. 18(2), 1990, pp. 121-131.

This review of health and safety issues in agriculture indicates that the leading cause of farm fatalities is farm machinery. Of this machinery, tractors were most frequently involved in accidents. The article also discusses chronic traumatic injuries, suicide, respiratory illnesses, and skin problems.

15

It's Not All Sunshine and Fresh Air: Chronic Health Effects of Modern Farming Practices. Marty Strange, editor. Walthill, NE: Center for Rural Affairs, 1984. 108 p. NAL Call No.: RC965.A5I7.

This publication includes articles on a wide variety of agricultural health topics, including hearing loss, lung disease, zoonoses, cancer, and pesticides.

16

NIOSH Agriculture Bibliography. Washington, D.C.: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health (NIOSH), 1991. 35 p. Available from Technical Information Branch, NIOSH, 4676 Columbia Parkway, Mail Stop C-19, Cincinnati, OH 45226, 800/356-4674.

This bibliography is a selected list of NIOSH publications on agriculture. The publications are arranged by type and include contract and grant reports, technical assistance reports, journal articles, and book chapters.

17

"Nonfatal Farm Accidents in North Dakota: A Sociological Analysis." J.M. Geller, R. Ludtke, and T. Stratton. *The Journal of Rural Health*, Vol. 6(2), April 1990, pp. 185-196. NAL Call No.: RA771.A1J68.

The authors conducted a study of the relationship between financial hardship and the likelihood of experiencing a nonfatal farm injury. The findings indicated that younger farmers with higher levels of financial stress are more likely to have accidents. The article explores possible reasons for this relationship and discusses implications for farm safety education.

18

The Occupational Health of Migrant and Seasonal Farmworkers in the United States. Valerie A. Wilk. Washington, D.C.: Farmworker Justice Fund, Inc., 1986. 125 p. NAL Call No.: RC965.A5W55.

This report reviews data on the health status of farmworkers and outlines recommendations for research and program priorities. The occupational health problems discussed include communicable diseases, urinary tract infections, heat stress, pesticide-related illnesses, dermatitis, eye problems, musculoskeletal problems, accidents, noninfectious respiratory diseases, cancer, and maternal and child health hazards. The report also reviews occupational safety and health laws affecting farmworkers. A report summary is also available.

19

The Occupational Health of Migrant and Seasonal Farmworkers in the United States: Progress Report. Valerie A. Wilk. Washington, D.C.: Farmworker Justice Fund, Inc., 1988. 25 p. Available from the National Rural Health Association, 301 E. Armour Blvd., Suite 420, Kansas City, MO 64111, 816/756-3140.

This report, a follow-up to *Occupational Health of Migrant and Seasonal Farmworkers in the United States*, examines the progress that has been made on the thirteen recommendations for improving farmworker health. A list of resources and training materials is included.

20

"Occupational Health and the Rural Worker: Agriculture, Mining, and Logging." D.S. Pratt. *The Journal of Rural Health*, Vol. 6(4), October 1990, pp. 399-417. NAL Call No.: RA771.A1J68.

The article discusses the health status of migrant farmworkers, the acute and chronic effects of pesticides, farm injuries, stress, respiratory illness, and issues for the logging and mining industry. The author encourages additional research in these areas.

21

Principles of Health and Safety in Agriculture. James A. Dosman and Donald W. Cockcroft. Boca Raton, FL: CRC Press, 1989. 421 p. NAL Call No.: RC965.A5P75.

This publication includes over 100 articles on respiratory risks, grain dusts, occupational asthma, environmental assessment, health promotion, pesticide toxicology, cancer risks, dermatoses and zoonoses, principles of safety, injuries, and mental health.

22

A Report to the Nation: Agricultural Occupational and Environmental Health: Policy Strategies for the Future. James A. Merchant and others, editors. Iowa City, IA: National Coalition for Agricultural Safety and Health, 1988. 67 p. Available from Conference Secretary, Institute of Agricultural Medicine and Occupational Health, 124 AMRF, Oakdale Campus, University of Iowa, Iowa City, IA 52242, 319/335-4415.

This report, also known as "Agriculture at Risk," summarizes the proceedings of a national conference on environmental and agricultural safety and health which involved 170 scientists and policymakers. Summaries of scientific papers and numerous policy recommendations are included.

23

"Safety Spending: Is Agriculture Being Shortchanged?" M.A. Purschwitz and W. E. Field. *Agricultural Engineering*, Vol. 69(7), November-December 1988, pp. 10-18. NAL Call No.: 58.8 AG83.

This article discusses the current level of federal spending for agricultural safety programs and compares it to the spending for other industries. The authors recommend that spending levels be more proportional to the incidence of injury and death.

24

"Technical Workshop Report: Working Group I: Occupational Health and Safety Strategies for Agriculture." J.A. Dosman. *American Journal of Industrial Medicine*, Vol. 18(3), 1990, pp. 353-6.

Based on a review of major agricultural safety and health issues, this working group outlined specific health maintenance strategies. One of the recommendations is multidisciplinary program development that involves the local community, state government, universities, farm organizations, and industry.

25

"Technical Workshop Report: Working Group II: Agricultural Occupational Health and Safety Services for Farmers and Ranchers." G. Osweiler. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 511-5.

Among the recommendations of this working group for improving agricultural safety and health services is the development and implementation of educational programs that involve the farm community and local resources. Marketing, surveillance, and program evaluation are essential components of any program. A discussion of regulatory options is included.

PUBLICATIONS: Statistics/Research Methods

26

Accident Facts. Chicago, IL: National Safety Council, 1990 edition. 108 p. NSC, 02170-0000. NAL Call No.: 289.69 N21.

This annual publication provides national statistics on the number, causes, and costs of accidental deaths. A section on farm resident accidents is included.

27

"Beyond Surveillance: Prospects for Analytic Studies for Agricultural Injuries." P.M. Layde. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 193-200.

This article reviews the basis of current knowledge about agricultural injuries, discusses the methodologic barriers to analytic studies, and suggests ways to address these barriers. The author argues that a major obstacle is the lack of data on the causes and risks associated with agricultural injuries.

28

Bibliography with Abstracts on the Epidemiology of Farm Injury. National Farm Medicine Center. Available Fall 1992 from Technical Information Branch, NNIOSH, 4676 Columbia Parkway, Mail Stop C-19, Cincinnati, OH 45226, 800/356-4674.

The aim of this work is to locate, collect, and compile scholarly research reports on the occurrence and characteristics of farm injury in an indexed bibliography with author's abstracts. No comprehensive checklist on the epidemiology of farm injury currently exists. The development of a thorough bibliography will fill this void and will likely stimulate research efforts directed at the causes and consequences of farm injury. Once the causes and consequences are known, appropriate interventions and policies can be developed and implemented.

29

"Comparison of Two Methodologies to Measure Agricultural Occupational Fatalities." D.J. Murphy, B.L. Seltzer, and C.E. Yesalis. *American Journal of Public Health*, Vol. 80(20), February 1990, pp. 198-200. NAL Call No.: 449.9 AM3J.

Using data from 1985-1987 in Pennsylvania, the authors compared agricultural fatalities from the National Traumatic Occupational Fatality System of NIOSH with alternative systems. The article discusses the differences in the statistics and the reasons for these differences.

30

"The Farm Family Perception of Occupational Health: A Multistate Survey of Knowledge, Attitudes, Behaviors, and Ideas." K. Thu, K.J. Donham, D. Yoder, and L. Ogilvie. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 427-31.

The authors conducted an extensive phone and mail survey to assess farm families' concerns and attitudes regarding agricultural safety and health. Their findings indicated that farmers' major concerns include stress, trauma, and respiratory problems and that they are interested in receiving health and safety services. The authors recommend that agricultural health and safety programs and policies include farmers' input.

31

Injury in America: A Continuing Public Health Problem. Committee on Trauma Research, Commission on Life Sciences, National Research Council and the Institute of Medicine. Washington, D.C.: National Academy Press, 1985. 164 p.

This book provides information on the magnitude and characteristics of injury in the United States. The authors discuss the epidemiology of injuries, prevention, injury biomechanics, treatment, rehabilitation, and research.

32

The National Traumatic Occupational Fatalities: A Surveillance Tool for Agricultural Work-Related Deaths. John R. Myers. Paper, (89-9). Columbia, MO: National Institute for Farm Safety, 1989. 19 p. Available from National Institute for Farm Safety, 205 Ag Engineering Building, Columbia, MO 65211, 314/882-2731.

NIOSH began using the National Traumatic Occupational Fatalities System in 1985 to quantify the number of occupational deaths due to trauma. The author outlines the advantages and limitations of using this surveillance system to track agricultural deaths. Data from 1980-1985 are presented and discussed.

33

"A New Approach to Collecting Farm Accident Data." D.J. Murphy and M.A. Huizinga. *Journal of Safety Research*, Vol. 20(1), Spring 1989, pp. 21-29.

The authors present the findings of the "Pennsylvania Farm Labor, Tractor Use, and Farm Injury Survey" and recommend this type of personalized mail survey for collecting farm accident data.

34

Opinions and Preferences on Farm Accident Data Collection and Management. Mark A. Purschwitz and William E. Field. Paper (American Society of Agricultural Engineers), 88-5521. St. Joseph, MI: American Society of Agricultural Engineers, 1988. 25 p. NAL Call No.: FICHE S-72, No. 88-5521.

The authors surveyed Extension safety specialists and others working in farm safety on the collection and management of farm accident data. The survey ranked various elements of accidents in order of importance. These data will be used to develop a farm accident information system. A copy of the questionnaire is included.

35

Overview of Agricultural Accident Data Sources and Collection Systems. Mark A. Purschwitz and William E. Field. Paper (American Society of Agricultural Engineers), 87-5003. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 17 p. NAL Call No.: FICHE S-72, No. 87-5003.

This paper reviews national, state, and local collection systems of agricultural accident data and discusses their limitations. The authors surveyed Extension farm safety specialists on their methods of collecting this data.

36

"Perspective on Farm Accident Statistics." P. Rosenblatt and P. Lasley. *The Journal of Rural Health*, Vol. 7(1), Winter 1991, pp. 51-61. NAL Call No.: RA771.A1J68.

This article uses the results of a survey of Iowa farmers to discuss the limitations of current farm injury statistics. The findings document four categories of data generally excluded from conventional statistics: accidents that are treated at home; accidents to people who are often not included in farm accident statistics such as children and the elderly; farmers' knowledge of others' accidents and their own close calls; and, farmers' comparisons of common and uncommon causes of farm accidents.

37

Scope and Magnitude of Injuries in the Agricultural Workplace. Mark A. Purschwitz and William E. Field. *Paper (American Society of Agricultural Engineers)*, 87-5514. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 12 p. NAL Call No.: FICHE S-72, No. 87-5514.

This paper presents an overview of the scope and magnitude of agricultural work-related accidents. The limitations of existing sources of data and the need for a more comprehensive, solid base of research are discussed.

38

"Surveillance of Agricultural Injuries in Central Wisconsin: Epidemiologic Characteristics." D. Stueland, B. Lee, and P.M. Layde. *The Journal of Rural Health*, Vol. 7(1), Winter 1991, pp. 63-71. NAL Call No.: RA771.A1J68.

Using data from an emergency room-based farm injury surveillance system over a two-year period, this report focuses on characteristics of the victims and the agents associated with their injuries. The authors recommend that this type of surveillance system accompany other systems for a more interdisciplinary approach to farm injury research.

39

"Surveillance of Fatal and Non-fatal Farm Injuries in Kentucky." L. Stallones. *American Journal of Industrial Medicine*, Vol. 18(2), 1990, pp. 223-34.

This report describes a farm injury surveillance system designed to evaluate ongoing prevention activities in education, training, and equipment design. The system used mortality data from death certificates and morbidity data from the Farm Accident Survey conducted in 1978. The author discusses the limitations of existing data and the information needs of an agricultural injury surveillance system.

40

A Survey of Farmers' Attitudes on Human Factors. Gary L. Smith. *Paper (American Society of Agricultural Engineers)*, 87-1103. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 7 p. NAL Call No.: FICHE S-72, No. 87-1103.

Of the one hundred farmers surveyed in Maryland, 90% considered human error to be the most common cause of accidents, and 80% considered fatigue to have the greatest effect on operator performance. A copy of the survey is included.

41

Understanding Risk Assessment from the Epidemiologic Perspective. Robert H. McKnight and Glen H. Hetzel. *Paper (American Society of Agricultural Engineers)*, 87-5008. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 9 p. NAL Call No.: FICHE S-72, No. 87-5008.

This paper describes the public health discipline of epidemiology or risk quantification. The authors encourage the use of epidemiology among agricultural safety professionals to estimate agricultural injury risk.

PUBLICATIONS: Rescue/Emergency Care/Rehabilitation

42

Accident Extrication Procedures for Farm Families. Bobby L. Tyson. Leaflet, (379). Athens, GA: Cooperative Extension Service, University of Georgia, May 1985. 11 p. NAL Call No.: 275.29 G29L.

This leaflet is designed to help individuals with basic first aid knowledge improve their response at the scene of a farm accident. It provides information on approaching an accident and stabilizing and removing the victim from machinery, storage structures, fires, and accidents involving chemicals.

43

Emergency Medical Treatment: Adults: A Handbook of What to Do in an Emergency to Keep an Adult Alive until Help Arrives. Stephen N. Vogel and David H. Manhoff. Wilmette, IL: EMT, Inc., 1991. 26 p. Distributed by RPM, Inc., P.O. Box 616, Oshkosh, WI 54902, 800/233-2122.

This manual is a handbook of emergency medical treatment for adults that covers fifteen types of emergencies.

44

Extinguishing Silo Fires. William C. Arble and Dennis J. Murphy. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1989. 14 p. NRAES, 18. Available from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

This manual outlines silage management and fire prevention practices on the farm. It describes fire control, safety procedures, and other concerns with conventional and oxygen-limiting fires. The causes of silo fires and the elements of good silage are also discussed.

45

Farm Accident Rescue. L. Dale Baker, William E. Field, Rollin Schneider, Clair W. Young, Robert A. Parsons, and Dennis J. Murphy. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1986. 35 p. NRAES, 10. Available from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

This handbook provides information for emergency medical and rescue personnel on a variety of farm accidents. Rescue procedures and concerns are presented for accidents involving farm machinery, structures, and chemicals. The handbook also includes rescue tool inventory guidelines, additional references, and agricultural operator control symbols.

46

First on the Scene. Dennis Murphy, John Pollock, Gary Smith, Thomas Bean, and Martin A. Sailus. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1989. 46 p. NRAES, 12. Available from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

This publication educates rural residents on what to do when arriving at the scene of a farm accident. Decision-and-action trees illustrate the procedures for accidents involving farm machinery, storage facilities, chemicals, and electrocution. It also discusses emergency care concerns, first aid supplies, and procedures for reporting accidents and shutting off diesel tractors. An emergency information sheet is included.

47

"Playing it Safe: Anatomy of a Farm Accident Rescue Training Program." J.E. McCarthy and D.T. Stueland. *Journal of Emergency Medical Services*, June 1987, pp. 56-57.

This article describes the farm accident rescue training program of the National Farm Medicine Center. The authors have compiled a list of other farm rescue programs and identified differences among existing programs.

48

"Rehabilitation Services — A Challenge for Rural America." W.E. Field. *The Marshfield Clinic Bulletin*, Vol. 2(20), Spring 1989, pp. 13-24.

This article reviews the prevalence of disabilities within the rural agricultural community, the need for rural rehabilitation services, the barriers to delivery, and the availability of rural rehabilitation technology resources. The author concludes that despite substantial need, too little is being done in the areas of training, research, and service.

49

"The Spectrum of Agricultural Trauma." T. Cogbill, H. Busch, Jr., and G. Stiers. *The Journal of Emergency Medicine*, Vol. 3, 1985, pp. 205-210.

The authors studied the spectrum, management, and prevention of agricultural injuries in 375 patients during a six-year period at a level II trauma center in rural Wisconsin. Thirty-six percent of these accidents involved farm animals, 24% tractors, 15% corn pickers or augers, 8% power take-offs, 13% other farm machinery, and 4% miscellaneous causes. Although only 2% of the patients died, faster prehospital response times could have improved the outcomes for all accident victims. Safety recommendations are also included.

50

"The Spectrum of Emergency Care of Agricultural Trauma in Central Wisconsin." D.T. Strueland, T. Zoch, P. Stamas, Jr., G. Krieg, and W. Boulet. *American Journal of Emergency Medicine*, Vol. 8(6), November 1990, pp. 528-530.

The emergency department of the Marshfield Clinic and St. Joseph's Hospital collected data on all their cases of agricultural injuries over a two year period. Of the 913 individuals with agricultural injuries, 27% were under 19 years of age. Over half of the injuries involved farm machinery. The authors recommend that staffing patterns of emergency departments in rural areas reflect the peak seasons, days, and hours in which most agricultural accidents occur.

51

"Staying Alive...The Struggle to Save Farm Accident Victims." C. Tevis. *Successful Farming*, March 1990, Vol. 88(4), pp. 37-52. NAL Call No.: 6 SU12.

Using individual and community examples, this article provides a wide range of information on first aid and rescue. This information includes farm accident statistics, a farm accident IQ quiz, ten steps to take at an accident site, and ways to involve community members in providing emergency care.

52

"To the Rescue." K. Weidener. *Penn State Agriculture*, Winter 1986, pp. 2-7. NAL Call No.: S451.P4P45.

This article provides background information on Penn State's Agricultural Accident and Rescue Series and gives the accounts of two handicapped farmers who continue to farm following serious accidents.

53

"Training Farm Lifesavers." R.W. Frazee. *Extension Review*, Vol. 56(3), Summer 1985, p. 42. NAL Call No.: 1 EX892EX.

This article describes a training program for emergency personnel operating in eleven County Extension Service offices in Illinois. Participants are taught how to respond to various accident scenarios and injuries and are trained in first aid procedures and extrication methods.

PUBLICATIONS: Health Education/Prevention

54

"Agricultural Injury Prevention: The Need for Greater Cooperation and Involvement." M.A. Purschwitz, B.C. Lee, and J.R. Schmelzer. *The Journal of Rural Health*, Vol. 6(3), July 1990, pp. 221-229. NAL Call No.: RA771.A1J68.

The authors stress the need for cooperation and coordination among people inside and outside the agricultural community to develop research, education, and other initiatives that can effectively reduce agricultural injuries. Steps for establishing a prevention program and a list of local, state and national organizations involved in agricultural injury prevention are included.

55

"A Case for Medical, Environmental, and Safety Screening." D.A. Emanuel. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 413-419.

Although agriculture is one of the most hazardous occupations in the United States, there has been little improvement in the past 30 years, and agriculture continues to pose many health threats to farmers. Screening programs face many challenges because of the diverse nature of agriculture. Screening tests include pulmonary function studies, dust levels, serological testing, hearing testing and noise level production, and cholinesterase levels.

56

"A Case for Social Marketing and Education for Acceptance and Implementation of Preventive Health and Occupational Safety Measure Programs for Rural Communities." B.D. Rowley. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 443-7.

This article explores the use of innovation and community development models in providing health and safety education in rural communities. The author recommends a community-oriented primary care approach because it involves both health professionals and the rural community.

57

"Delivering Comprehensive Health Education Programs for Farmers in a Primary Care Setting." J.K. Hartye and N. Mathis. *The Journal of Rural Health*, Vol. 5(3), July 1989, pp. 193-200. NAL Call No.: RA771.A1J68.

This article describes the development, content, results, and follow-up of a comprehensive health education program for farmers in western North Carolina. The evaluation indicates that the majority of participants retained useful information and incorporated behavior changes. The authors recommend designing an educational program to fit the needs of local farmers, reinforcing the material, and encouraging the development of relationships with health care providers.

58

Dress for Safety on Farm and Ranch. Linda Manikowske. FS (843). Brookings, SD: Cooperative Extension Service, South Dakota State University, 1985. 4 p. NAL Call No.: 275.29 So85Fs no. 843.

This bulletin provides information on the use of clothing and equipment to protect hands, feet, heads, eyes, ears, and lungs while farming.

59

"Education, Equipment Modification and Injury Control Among Farm Workers in Kentucky." L. Stallones. *Journal of Occupational Accidents*, Vol. 10, 1989, pp. 293-303.

Arguing that injury control should be the major factor in developing an agricultural injury data collection system, the author presents an intervention classification strategy using existing data from Kentucky.

60

"An Educational Intervention Program for Prevention of Occupational Illness in Agricultural Workers." K. Ferguson, C. Gjerde, C. Mutel, K. Donham, C. Hradek, K. Johansen, and J. Merchant. *The Journal of Rural Health*, Vol. 5(1), January 1989, pp. 33-47. NAL Call No.: RA771.A1J68.

This article presents the methods and results of a study that determined the attitudes, knowledge, and behavior regarding respiratory health of 198 Iowa swine confinement operators. Half of the operators participated in an educational program. The results show that these participants' knowledge of potential hazards in swine confinement significantly improved. An educational handout on human health and confinement is included.

61

"Epilogue: Agricultural Occupational and Environmental Health Policy Strategies for the Future." A. Thelin. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 523-6.

This article describes the challenges of reducing hazards in the agricultural workplace. The author encourages the development of prevention programs and notes that research, education, engineering, and regulation helped Sweden significantly reduce the incidence of tractor rollover deaths, chainsaw injuries, and hearing loss.

62

"Factors Affecting Farm Safety Practices." S.R. Schafer and J.W. Kotrlik. *Journal of Safety Research*, Vol. 17(3), 1986, pp. 123-127.

The authors conducted a study of the effectiveness of a farm safety program in Beauregard Parish, Louisiana. The study involved the National Safety Council, Cooperative Extension, the Farm Bureau, and other interested agencies. The results suggest that participation in a farm safety program may result in improved safety practices.

63

"Farm Accidents and Injuries: A Review and Ideas for Prevention." C.H. Stoskopf and J. Venn. *Journal of Environmental Health*, Vol. 47(5), March/April 1985, pp. 250-252.

The authors review the findings on accidents involving tractors, augers, and corn pickers and discuss recommendations for reducing agricultural injuries. These recommendations are grouped into four categories: farm inspection, medical care, farmer education, and equipment design. The article also includes five suggestions for making farm machinery safer.

64

The Farm Safety Walkabout Handbook. Cheryl Hawk, Jane Gay, and Kelley J. Donham. Iowa City, IA: Institute of Agricultural Medicine and Occupational Health, 1992. 80 p. Available from Iowa Department of Public Health (Angie McLaughlin), Disability Prevention, Lucas State Office Building, Des Moines, IA 50319-0075, 515/242-5833.

This handbook provides information on starting a farm injury prevention program. It discusses planning, implementing, and evaluating the program as well as conducting a community survey and a farm safety audit. The appendices include a community survey instrument, farm safety walkabout guidebook, pre-test and post-test, sample newsletter of survey results, sample report, sample press release, resource list, and reporting forms.

65

Injury Prevention in America: The Workplace. Anne R. Grant. Washington, D.C.: The Roscoe Pound Foundation, 1991. 65 p. Available from The Roscoe Pound Foundation, 1050 31st Street, NW, Washington, D.C., 202/965-3500.

This publication contains reports on three roundtable discussions, "The Deadliest Work in America: Can Farming Be Made Safer?," "Compensation and Prevention of Industrial Accidents: How Effective is the Law?," and "How Can Occupational Diseases Be Controlled?" Each report contains background information and highlights of the roundtable discussion.

66

"Iowa Agricultural Health and Safety Service Project." J. Gay, K.J. Donham, and S. Leonard. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 385-389.

This article describes the Iowa Agricultural Health and Safety Service Project (IAHSSP) which was developed as a two-year, community-based program operated by the University of Iowa and funded by the state legislature. The objectives, structure, and services of the project are outlined.

67

"Occupational Health Services for Farmers." D. Emanuel, D. Draves, and G. Nycz. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 149-162.

This article discusses the health needs of farm families and the availability and affordability of health care for the farming community. In addition to providing more educational programs and improved treatment, the authors recommend that the rural health care system be studied and restructured.

68

"Reaching the Difficult Audience: An Experiment to Provide Occupational Health Services to Farmers and Ranchers in Colorado, U.S.A." D. Sandfort. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 395-403.

This article describes the evolution of the Workplace Health in Agriculture Program at Colorado State University. The focus of this program has changed from providing health and safety consultations with agribusiness to educating specific groups within the agricultural community. These targeted groups, including rural health care providers, vocational students and teachers, farm/ranch clubs, and rural emergency medical services personnel, now promote agricultural health and safety. Interest in the program's services has increased.

69

Rural Accident Prevention Bulletins. Chicago, IL: National Safety Council. 29 are listed. Most are 4 pages, 8 1/2 by 11-in., and illustrated. Available from National Safety Council, Order Department, P.O. Box 11933, Chicago, IL 60611-0933, 800/621-7619.

Topics of these bulletins include safe handling of farm fuels, hearing protection, farm tractor safety, and safe handling of anhydrous ammonia. Some may not be reprinted after the supply is exhausted.

70

"Rural Hospitals and the Provision of Agricultural Occupational Health and Safety Services." D.S. Wakefield. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 433-42.

This article discusses the hazards of the agricultural workplace and the limited safety services available for agricultural workers. A major barrier is the absence of dedicated funds for these services at many rural hospitals. The problems of implementing occupational health and safety services and the ability of rural hospitals to provide these services are also discussed.

71

"A Safety Program That Works." *Progressive Farmer*, Vol. 105(10), October 1990, pp. 22-28. NAL Call No.: S1.P7.

This article describes farm safety programs for emergency medical technicians, teenagers, and farm families. The article also discusses corporate involvement in farm safety and gives safety tips, including starting a 911 service and using rollover protective structures. A safety checklist is provided.

72

"Worker Protection and Safety." G. Waddle. In 1989 *Oklahoma Grain Elevator Workshop Manual*. Circular E, (881). Stillwater, OK: Cooperative Extension Service, Oklahoma State University, 1989, pp. 1-5. NAL Call No.: 275.29 OK41C.

This article describes the elements of a safety and health program: management commitment, worksite analysis, hazard prevention and control, and safety and health training. A summary of mandatory, general industry OSHA standards which apply to grain elevators is included.

Publications: Children

73

"Accidental Farm Injuries in Children." J.A. Swanson, M.I. Sachs, K.A. Dahlgren, and S.J. Tinguely. *American Journal of Diseases in Children*, Vol. 141, December 1987, pp. 1276-1279.

To better understand farm injuries among children, the authors reviewed 88 cases of trauma treated in the emergency room in Rochester, Minnesota, from 1974 to 1985. The ages with the greatest incidence were 3 and 13. Farm machinery was involved in the vast majority of these accidents, forty percent of which resulted in significant long-term disabilities. The article concludes with prevention strategies.

74

"Childhood Farm Injuries: A Neglected Aspect of Patient and Resident Education." R.C. Bredfeldt, A.E. Heath, J.A. Junker, and G.L. Cuddeback. *Family Medicine*, Vol. 21(3), May-June 1989, pp. 217-20.

The authors surveyed the program directors of 380 residency programs to assess how many family practice residencies include instruction on preventing childhood farm injuries. Of 332 completed questionnaires, only three reported any formal instruction on this topic, even though 102 programs stated that at least 50% of their graduates practiced in rural communities. Methods of implementing and adapting curriculum on the prevention of childhood farm injuries are included.

75

Emergency Medical Treatment: Children: A Handbook of What to Do in an Emergency to Keep a Child Alive until Help Arrives. Stephen N. Vogel and David H. Manhoff. Wilmette, IL: EMT, Inc., 1989. 28 p. Distributed by RPM, Inc., P.O. Box 616, Oshkosh, WI 54902, 800/233-2122.

This manual is a handbook of emergency medical treatment for children that covers fifteen types of emergencies. There is also a handbook for infants, and both are available in Spanish.

76

"Farm Accidents in Children." T. Cogbill, H. Busch, and G. Stiers. *Pediatrics*, Vol. 76(4), October 1985, pp. 562-566. NAL Call No.: RJ1.P42.

To better define the magnitude and management of farm accidents in children, patients under 18 years of age admitted to La Crosse Lutheran Hospital in La Crosse, Wisconsin, were studied over a six and one-half year period. Of the total 105 children, 40% were involved in animal-related accidents and 46% with some type of farm machinery. The findings indicated that major injuries were managed most effectively in a regional trauma center.

77

Fatal Farm Accidents Occurring to Wisconsin Children, 1970-1984. Roger L. Tormoehlen. Paper (American Society of Agricultural Engineers), 86-5514. St. Joseph, MI: American Society of Agricultural Engineers, 1986. 13 p. NAL Call No.: FICHE S-72, No. 86-5514.

The cases of 247 Wisconsin children who died in farm-related accidents were analyzed to determine the nature and characteristics of their accidents. Tractors or other farm machinery were involved in three out of four of the fatal accidents. Numerous conclusions and recommendations are provided.

78

Fatal Farm Injuries to Children. Mark Purschwitz. Marshfield, WI: Wisconsin Rural Health Research Center, 1990. 17 p. NAL Call No.: SB565.P87.

This paper reviews what is currently known about fatal farm injuries to children. Between 175 and 300 children die each year from farm accidents. The author discusses the rates, age, and calendar distributions as well as the types of fatal farm injuries to children. Policy implications and recommendations for prevention are included.

79

"Fatal Farm Injuries Among Young Children." L.R. Salmi, H.B. Weiss, P.L. Peterson, R.F. Spengler, R.W. Sattin, and H.A. Anderson. *Pediatrics*, Vol. 83(2), February 1989, pp. 267-271. NAL Call No.: RJ1.P42.

The authors reviewed death certificates of children up to age nine in Wisconsin and Illinois from 1979 to 1985 to determine how many deaths were farm-related. There were 62 deaths in Wisconsin (3.2 per 100,000) and 32 deaths in Illinois (1.2 per 100,000). Most deaths involved machinery, and the rate of death for boys was three times higher than for girls.

80

"Fatal and Nonfatal Farm Injuries to Children and Adolescents in the United States." F.P. Rivara. *Pediatrics*, Vol. 76(4), October 1985, pp. 567-573. NAL Call No.: RJ1.P42.

This study reviews nationwide data on the mortality and morbidity of children and adolescents under 19 years of age from farm accidents. The sources of these data were the National Center for Health Statistics, the National Electronic Injury Surveillance System, the Consumer Product Safety Commission, and the 1980 Census. According to the study, farm injuries cause 300 deaths in this population and 23,500 cases of non-fatal trauma.

81

"Fatal Unintentional Injuries Among Kentucky Farm Children: 1979 to 1985." L. Stallones. *The Journal of Rural Health*, Vol. 5(3), July 1989, pp. 246-256. NAL Call No.: RA771.A1J68.

The author reviewed the death certificates of Kentucky children under 15 years old to determine the nature of unintentional, farm-related deaths from 1979 to 1985. The majority of the 57 fatal accidents involved farm machinery, drowning, or motor vehicles.

82

"For the Rest of My Life." *Farm Journal*, Vol. 113(11), September 1989, pp. 36-7. NAL Call No.: 6 F2212.

A 13-year-old boy, Devin Vannoy, and his mother and brother recount the auger accident that changed his life and describe his determination and ability to continue farming.

83

"Rural Injuries." *Pediatrics*, Vol. 81(6), June 1988, pp. 902-903. NAL Call No.: RJ1.P42.

This statement of the American Academy of Pediatrics Committee on Accident and Poison Prevention reviews the magnitude of rural injuries among children and provides recommendations for prevention.

84

"Rural Youth Disability Prevention Project Survey: Results from 169 Iowa Farm Families." C. Hawk, J. Gay, and K.J. Donham. *Journal of Rural Health*, Vol. 7(2), Spring 1991, pp. 170-179.

This article describes the Rural Youth Disability Prevention Project, a community-based, pilot project in Iowa that addresses child safety issues in agriculture. A community assessment survey was administered to assist in program development and evaluation. The authors recommend developing similar projects in other communities if the program proves successful.

85

"So That Kids Might Live." C. Tevis. *Successful Farming*, Vol. 89(5), Mid-March 1991, pp. 33-40. NAL Call No.: 6 SU12.

This article describes projects for promoting farm safety among children. The projects include a farm safety rap song, a coloring book, a first aid program, a farm hazards educational program, a day clinic, and a safety fair. Contacts for each project are provided.

86

"We Kill Too Many Farm Kids." C. Tevis. Des Moines, IA: Meredith Corporation, 1991, 16 p. Reprinted by *Successful Farming*. Available from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2927.

This article provides an overview of the issues regarding farm safety for children. The author provides information on various farm safety organizations and discusses causes of accidents and barriers to safety programs. A survey of 421 readers with children 15 years old or younger assessed their attitudes towards their children working on farms.

PUBLICATIONS: Occupational Risks

Respiratory

87

"Acute Symptoms Following Exposure to Grain Dust in Farming." J. Manfreda, V. Holford-Strevens, M. Cheang, and C.P.W. Warren. *Environmental Health Perspectives*, Vol. 66, April 1986, pp. 73-80.

The authors discuss a survey of 661 male and 535 female current or former farmers. The survey indicated that over one half of the males and one third of the females reported at least one acute symptom following exposure to grain dust.

88

"Aeroallergens in Dairy Barns Near Cooperstown, New York and Rochester, Minnesota." A.R. Campbell, M.C. Swanson, E. Fernandez-Caldas, C.E. Reed, J.J. May, and D.S. Pratt. *American Review of Respiratory Disorders*, Vol. 140(2), August 1989, pp. 317-320.

The air in sixteen barns in New York and Minnesota was sampled to measure various aeroallergen levels. The sources of these allergens included weeds, molds, animals, their feed, rodents, insects and mites. The authors recommend more studies of agricultural environments to better assess the level of allergens to which farmers are exposed.

89

Agricultural Respiratory Hazards Education Series. West Des Moines, IA: American Lung Association of Iowa, 1986. Available from the American Lung Association of Iowa, Attn: Ag Division, 1025 Ashworth Road, Suite 410, West Des Moines, IA 50265, 515/224-0800. This series of nine units provides an overview of agriculture-related respiratory hazards, approaches to prevention, information sources, and medical surveillance.

90

"Population Based Studies of Immunologic Lung Disease Among Farmers." J.J. Marx. *The Marshfield Clinic Bulletin*, Vol. 2(20), Spring 1989, pp. 38-47.

Studies of randomly selected dairy farmers in central Wisconsin indicated that respiratory disease remains a major problem and that farmer's lung disease is only one of many respiratory diseases affecting farmers. The article discusses the incidence of farmer's lung disease, organic dust toxic syndrome, and the differences between them.

91

"A Synopsis of Agricultural Respiratory Hazards." W. Popendorf, K.J. Donham, D.N. Easton, and J. Silk. *American Industrial Hygiene Association Journal*, Vol. 46(1), March 1985, pp. 154-161.

This article reviews the current knowledge on agricultural respiratory hazards. These hazards include agricultural chemicals, organic and inorganic dusts, and microbiologic and immunologic agents. The authors encourage further research and recommend the development and coordination of occupational health skills between agricultural workers and governmental agencies.

Auditory

92

"Farming in Silence." K.B. McMahon and C. Urbain. *Farm Journal*, Vol. 112(13), November 1988, pp. 13-15. NAL Call No.: 6 F2212.

In a study of the hearing ability of 32 Iowa farmers and 26 white-collar workers, Sartori Memorial Hospital found that over half of the farmers suffered some form of hearing loss. The article discusses the causes of hearing loss on the farm and modern technology to correct these losses. A chart of the sound levels of typical farm situations is included.

93

"Hearing Loss Among High School Farm Students." S.K. Broste, D.A. Hansen, R.L. Strand, and D.T. Stueland. *American Journal of Public Health*, Vol. 79(5), May 1989, pp. 619-622. NAL Call No.: 449.9 AM3J.

The authors tested 872 vocational agriculture students in central Wisconsin over a three-year period to study levels of hearing loss among teenage farm children. Hearing loss was most prevalent among those actively involved in farming. The findings indicated that adult hearing loss may begin in childhood and is preventable through the use of hearing protection.

94

"Hearing Sensitivity in Farmers." R.S. Karlovich, R.L. Wiley, T. Tweek, and D.V. Jensen. *Public Health Reports*, Vol. 103(1), January-February 1988, p. 61-71. NAL Call No.: 151.65 P96.

The authors tested the hearing sensitivity of 534 males and 278 females in rural Wisconsin. A significant hearing loss had occurred in approximately 25% of the males by age 30 and in 50% by age 50. Less than 20% of all those surveyed used hearing protection devices consistently while farming.

95

"Noise-Induced Hearing Loss in Randomly Selected New York Dairy Farmers." J.J. May, L. Marvel, M. Regan, and D.S. Pratt. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 333-337.

The authors analyzed the hearing tests and medical and occupational histories of 49 full-time farmers to determine the effects of dairy farm noise levels. The findings indicate that substantial hearing losses for dairy farmers occur in high frequency ranges. Significant associations were found between hearing loss, years worked, and age.

Dermatological

96

"Dermatologic Disorders in Agriculture." D.J. Hogan and P. Lane. *Occupational Medicine: State of the Art Reviews*, Vol. 1(2), April-June 1986, pp. 285-300.

This article provides an overview of dermatologic disorders related to agricultural work. It discusses contact dermatitis from plants, pesticides, and other causes, zoonoses from tinea, viruses and mites, and skin cancer.

Thermal and Water

97

Farm Pond Safety. Bringle Jennings, Michael A. Hedges, and Charlotte M. Fant. *EL (University of Arkansas, Fayetteville. Cooperative Extension Service)*, 585. Little Rock, AR: Cooperative Extension Service, August 1988. 8 p. NAL Call No.: 275.29 AR4LE.

This leaflet presents farm pond safety practices, gives instructions for mouth-to-mouth artificial respiration, and describes the use of lifesaving equipment and warning signs.

98

Thermal Environment of Agricultural Workers: Environmental Stress. Charles W. Suggs. *Paper (American Society of Agricultural Engineers)*, 88-1635. St. Joseph, MI: American Society of Agricultural Engineers, 1988. 16 p. NAL Call No.: FICHE S-72, No. 88-1635.

This paper outlines agricultural workers' exposure to extreme hot and cold temperatures when farming. Heat loss, thermal indices, workloads, and clothing are discussed.

Animal

99

"Animals are Major Factor in Accidents on Dairy Farms." J. Pollack. *Ag Impact*, Vol. 14(10), October 1987, pp. 2-3. NAL Call No.: S544.3.N7A45.

According to a study of worker compensation claims of a sample of 4500 farms, animals were the major factor in 30 percent of the accidents. The author describes important elements of animal behavior and encourages farm workers to learn more about their animals in order to avoid unnecessary accidents.

100

California Poultry Industry Accident Study. Robert W. Brazelton, Ralph Ernst, Gerald Knutson, and Clay Brooks. *Paper (American Society of Agricultural Engineers)*, 84-5006. St. Joseph, MI: American Society of Agricultural Engineers, 1984. 20 p. NAL Call No.: FICHE S-72, No. 84-5006.

The results of a year-long study of California poultry industry accidents indicated that these accidents were less serious and occurred at a higher rate than for general agriculture. Most of the accidents could be eliminated with corrective training or safety equipment. The authors describe the types of injuries that occurred and suggest safety improvements.

101

"Human Health and Safety for Workers in Livestock Housing." K.J. Donham. In *Latest Developments in Livestock Housing: Seminar of the 2nd Technical Section of the Commission Internationale du Genie Rural*, International Commission of Agricultural Engineering, June 1987, pp. 86-95. NAL Call No.: SF91.I568 1987.

This article outlines the hazardous substances in livestock housing and the respiratory effects on humans. Data on the exposure thresholds of humans can be used to develop guidelines for ensuring worker safety in confinement buildings.

102

Mycobacterioses in Swine and their Significance to Public Health. B.P. Dey and Jesse Ostroff. *Bibliographies and Literature of Agriculture*, (49). Beltsville, MD: U.S. Dept. of Agriculture, 1986. 92 p. NAL Call No.: aZ5076.A1U54 no. 49.

This monograph discusses the relationship between the mycobacteria responsible for tuberculosis in humans and swine. The potential role of swine as a hazard to human health and the differences in the disease between humans and swine are discussed.

103

"Your Health: The Risks of Confinement: Blue Print Series for Top Managers." *National Hog Farmer*, Vol. 35(5), Spring 1990. NAL Call No.: 46.8 N213.

This special issue discusses the risks of livestock confinement units, dusts and gases, evaluating air quality, protecting your hearing, preventive management controls, and selecting a respirator.

Machinery

104

Agricultural Safety: Fundamentals of Machine Operation. Third edition. East Moline, IL: Deere and Company, 1987. 334 p. JDDSC, 18103B. Available from John Deere Distribution Service Center, Safety Films Department, 1400 13th Street, East Moline, IL 61244, 309/765-2725.

Written for students, this manual covers safety principles for farm machinery, human limitations and capabilities, common machine hazards, equipment maintenance, and specific types of farm equipment. Each chapter includes a summary and quiz questions. Safety laws, a glossary, and suggested readings are also provided.

105

"Bright Lights for Broad Tools." L. Eichenberger. *Farm Journal*, Vol. 112(11), September 1988, pp. 20-21. NAL Call No.: 6 F2212.

This article encourages the use of better lighting and safety devices on farm equipment to decrease the number of accidents on highways involving farm machinery.

106

Human Factors of Risk Reduction in User/Equipment Mis-Interaction. R. Lewis Hull. *Paper (American Society of Agricultural Engineers)*, 87-5002. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 13 p. NAL Call No.: FICHE S-72, No. 87-5002.

Safety professionals and equipment designers are beginning to study the role of human factors in accident prevention. Risk analysis of user/equipment mis-interaction combines human factors with fundamental design principles to increase equipment safety.

107

Human Presence Activated Safety Systems for Mobile Off-Road Equipment. Karl C. Anderson and Gary L. Smith. *Paper (American Society of Agricultural Engineers)*, 88-5516. St. Joseph, MI: American Society of Agricultural Engineers, 1988. 14 p. NAL Call No.: FICHE S-72, No. 88-5516.

Designed to reduce the number of accidents involving farm machinery, Human Presence Activated Safety Systems reinforce safety behaviors but do not require human input. This paper describes several types of safety systems and discusses considerations for future research.

108

Lateral and Longitudinal Stability of ATVs. Robert R. Wright and Thomas G. Carpenter. *Paper (American Society of Agricultural Engineers)*, 87-5005. St. Joseph, MI: American Society of Agricultural Engineers, 1987. 13 p. NAL Call No.: FICHE S-72, No. 87-5005.

All-terrain vehicles (ATVs) have become increasingly popular as on-farm transportation and small tractor substitutes. The authors found in their study that three-wheel ATVs are laterally and longitudinally unstable. No definitive conclusions were made on four-wheel ATVs.

109

"Lighting Agricultural Equipment to Improve Safety." R.G. Mortimer. *Agricultural Engineering*, Vol. 65(7), July 1984, pp. 23-27. NAL Call No.: 58.8 AG83.

This article outlines the lighting standard of the American Society of Agricultural Engineers for using agricultural equipment on highways and suggests revisions in these standards for side markings and turning signal lamps and controls.

110

Rollover Protection Directory: A Guide to Tractor Roll Bars and Other Rollover Protective Structures. Mark A. Purschwitz and Laurence Dupuis. Marshfield, WI: Wisconsin Rural Health Research Center, 1990. 65 p. NAL Call No.: S711.G8.

This guide provides information on obtaining retrofit rollover protective structures which protect tractor operators from injury or death in rollover accidents.

111

Summary of Accidents with Power Take-Off Driven Augers and Elevators. Terry L. Wilkinson and William E. Field. *Paper (American Society of Agricultural Engineers)*, 88-5519. St. Joseph, MI: American Society of Agricultural Engineers, 1988. 16 p. NAL Call No.: FICHE S-72, No. 88-5519.

This paper summarizes previous research on nonfatal and fatal auger and elevator power take-off accidents, provides recommendations, and discusses research currently in progress.

112

Tractor Upsets—Cause and Prevention. Joseph F. Gerling. *OSU Extension Facts*, June 1984. 4 p. NAL Call No.: S544.3.O5O5.

Most tractor upsets are caused by the interaction of two or more of the following forces: gravity, centrifugal force, rear-axle torque and leverage of the drawbar or hitch. This bulletin discusses these forces, methods of preventing tractor rollovers to the side and rear, and the use of rollover protective structures.

Electrical

113

Agricultural Electrification. Truman C. Surbrook and Ray C. Mullin. Cincinnati, OH: South-Western Publishing Co., 1985. 441 p. NAL Call No.: TK4018.S85.

This textbook includes units on numerous aspects of agricultural wiring, including methods and materials, equipment grounding and bonding, phase converters and transformers, and wiring for livestock housing. Recommendations for wiring installations for specific types of farms are discussed.

114

"Rural Electrocution Safety." P.B. Lee. In *1983 Rural Electric Power Conference*, New York, NY: Institute of Electrical and Electronics Engineers, Inc., 1983, pp. C2, 1-16. IEEE, 83CH1858-0. NAL Call No.: TK4018.R86.

This paper lists farming activities that are likely to cause electrocution accidents as well as prevention strategies for the utility, the user, and the farm machinery manufacturers. Counter electric safeguard concepts are described and illustrated.

115

"Techniques for Coping with Stray Voltages." R.J. Gustafson, H.A. Cloud, and V.D. Albertson. *Agricultural Engineering*, Vol. 65(12), December 1984, pp. 11-15. NAL Call No.: 58.8 AG83.

This technical article discusses three techniques for dealing with stray voltage: voltage reduction, gradient control, and isolation. A single-phase, seven-farm system with uniform loading is used as an example.

116

Workshop Stray Voltages in Agriculture. Washington, D.C.: National Rural Electric Cooperative Association, 1983. 119 p. NAL Call No.: TK4018.W67 1983.

These proceedings cover the effects of stray voltage on animals, sources of stray voltage in agriculture, diagnostic procedures for detection and measurement of stray voltage, and treatments or corrective procedures presently used for stray voltage problems. A bibliography is also included.

A variety of free electrical safety information for children and adults is available from Electrical Safety, Box 4036, Station A, Toronto, Canada M5W 2N4.

Chemical

117

"Agricultural Chemical Application Practices to Reduce Environmental Contamination." L.E. Bode. *American Journal of Industrial Medicine*, Vol. 18(4), 1990, pp. 485-9.

Improved methods of applying agricultural chemicals can reduce environmental contamination. This article discusses applicator exposure, application efficiency, and pesticides in groundwater. The author encourages providing education on the risks of pesticides as part of any rural environmental health strategy.

118

"Attitudes About Pesticide Safety." G.R. Hawkes and M.C. Stiles. *California Agriculture*, Vol. 40, May-June 1986, pp. 19-22. NAL Call No.: 100 C12CAG.

The authors conducted a study comparing pesticide experts' perceptions of the risks, costs, and benefits of pesticides with those of the California general population. Variations in risk perceptions are attributed to differences in belief systems, training and education, and miscommunication or misperception of relevant data.

119

"Farm Chemical Handling, Mixing, and Loading: Worker Safety and Environmental Concerns." E.C. Spurrier. In *Pesticide Formulations and Application Systems: Seventh Volume. ASTM Special Technical Publication*, (1968). G.B. Beestman and D.I.B. Vander Hooven, editors. Philadelphia, PA: American Society for Testing and Materials, 1987, pp. 56-58. NAL Call No.: SB950.93.P45.

This article provides recommendations for reducing personal exposure to farm chemicals and discusses methods of reducing pesticide waste and controlling drift or off-target movement.

Agricultural Safety and Health: A Resource Guide

120

Improving On-Target Placement of Pesticides. Bethesda, MD: Agricultural Research Institute, 1988, 220 p. NAL Call No.: SB950.93.I5.

This publication is the result of a conference co-sponsored by the Agricultural Research Institute and the U.S.D.A. Division of Science and Education. It covers closed system issues, packaging, application training, and regulatory issues.

121

"The Medical Consequences of Agricultural Chemical Exposure." D.T. Stueland. *The Marshfield Clinic Bulletin*, Vol. 2(20), Spring 1989, pp. 25-37.

This article describes the clinical effects of acute exposure to numerous classes of pesticides. The toxicologic aspects of these pesticides and the recommended methods of therapy following exposure are included.

122

Personal Protective Equipment for Pesticide Applicators: Guide to Sources. Washington, D.C.: Office of Pesticide Programs, U.S. Environmental Protection Agency, 1989. 227 p. NAL Call No.: SB952.5.P42.

Compiled with the cooperation of the National Institute for Occupational Safety and Health and the U.S. Department of Agriculture, this guide lists the following information by state: protective equipment distributors, suppliers, manufacturers; and sales representatives; sources of protective fabric; sources of gloves by fabric type; and, sources of certified respirators. A list of toll-free numbers and a glossary of terms are also included.

123

Pesticide Applicator Training Manual. Ithaca, NY: Northeastern Regional Pesticide Coordinators, 1990. 2nd edition. 290 p. NAL Call No.: SB952.863.A115P4.

Designed to help pesticide applicators prepare for a certification exam, this manual provides basic safety and handling rules for pesticide use. Topics include federal and state laws and regulations, toxicity, environmental considerations, safety precautions, symptoms of pesticide poisoning, and first aid. Each chapter contains self-study questions. Answers to these questions and a glossary are provided at the end of the manual.

124

Pesticide Applicator Training Materials: A Bibliography. Barbara O. Stommel. *Bibliographies and Literature of Agriculture*, (106). Beltsville, MD: U.S. Dept. of Agriculture, 1991. 332 p. NAL Call No.: aZ5076.A1U54 no. 106.

This bibliography of pesticide applicator training materials is divided into numerous sections, including fumigation, private core training, agricultural workers, reference, and various types of pest control. An index of the audiovisual materials and an index of the materials in foreign languages are included.

125

Pesticide Education Manual: A Guide to Safe Use and Handling. Cynthia L. Brown and Winand K. Hock, editors. Augusta, ME: Cooperative Extension Service, University of Maine, 1989. 105 p. NAL Call No.: SB952.863.M2P4.

This manual covers topics including pest and insect management, weed control, plant health, pesticide hazards and formulations, safe use of pesticides, application equipment, and relevant federal and state laws. Each chapter contains review questions. A glossary and a chart of calculations and conversions are included.

126

"Pesticide Illness: Reporting and Prevention." K. Derwin. *Rural California Report*, Vol. 2(3), July 1990, pp. 5-6.

This article describes a California Occupational Health Program in Fresno County to improve pesticide reporting among health care providers and to link those reports to worksite follow-up. The author includes several case summaries of pesticide poisoning investigations.

127

"Pesticides in Perspective." C.K. Winter. *American Nurseryman*, Vol. 169(6), March 15, 1989, pp. 113-121. NAL Call No.: 80 AM371.

The author argues that distinguishing between pesticide toxicity and the risk of pesticide exposure is an important concept in evaluating the health risks of pesticides. This article focuses on the risk of pesticide exposure.

128

"Pesticide-Related Health Problems and Farmworkers." *American Association of Occupational Health Nurses Journal*, Vol. 37(3), March 1989, pp. 115-130.

The author reviews the scientific literature on acute and chronic health effects of pesticide exposure. Data on the relationship between pesticide exposure and cancer, reproductive outcome, and mental health are included.

129

Pesticide Safety for Farmworkers (Uso Seguro de Pesticidas para los Trabajadores del Campo). Bonnie Poli and Sam S. Fluker. Washington, D.C.: Office of Pesticide Programs, U.S. Environmental Protection Agency, 1985. 29 p. NAL Call No.: SB952.5.P4.

Developed to supplement a slide-tape program, this English/Spanish manual provides farmworkers and employers with basic safety information on working with pesticides. Topics include symptoms of pesticide poisoning, first aid, protective clothing and equipment use, safe pesticide practices, pesticide labels, and worker protection standards. Contact information for regional offices of the Environmental Protection Agency and their Pesticide Farm Safety Program are included.

130

Pesticide Safety for Non-Certified Mixers, Loaders and Applicators (Uso Seguro de Pesticidas para Mezcladores, Cargadores y Aplicadores no Certificados). Bonnie Poli and Sam S. Fluker. Washington, D.C.: Office of Pesticide Programs, U.S. Environmental Protection Agency, 1986. 31 p. NAL Call No.: SB952.5.P65.

Similar in content to *Pesticide Safety for Farmworkers*, this English/Spanish manual was developed to supplement a slide-tape program. Information on pesticide labels, protective clothing, pesticide poisoning, and first aid is included.

131

Pesticide Safety and Training Materials Catalog. Washington, D.C.: U.S. Environmental Protection Agency, 1989. 132 p. Available from Occupational Safety Branch, Field Operations Division (H-7506C), Office of Pesticide Programs, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, 703/557-7666.

This catalog provides information on pesticide safety and training materials available to the general public. The materials are divided into sections including disposal, storage, spills and fires, poisoning and first aid, home pesticide use, personal protection, health care providers, and material specific to farmworkers. Each entry has an information summary.

132

"Pesticides and Cancer Risks in Agriculture." O. Axelsson. *Medical Oncology and Tumor Pharmacotherapy*, Vol. 4(3/4), 1987, pp. 207-217.

This article explores the relationship between pesticide use and the incidence of cancer among agricultural workers. Although mortality from cancer is generally low among farmers, studies have indicated an excess of certain types of cancer, particularly malignancies of the connective tissues. The author concludes that cancer risks are associated with certain mixtures of pesticides, but it is difficult to determine the effects of isolated compounds. Further study is recommended.

133

"Principles of Closed Systems for Handling of Agricultural Pesticides." R.W. Brazelton and N.B. Akesson. In *Pesticide Formulations and Application Systems: Seventh Volume, ASTM Special Technical Publication*, (968). G.B. Beestman and D.I.B. Vander Hooven, editors. Philadelphia, PA: American Society for Testing and Materials, 1987, pp. 15-27. NAL Call No.: SB950.93.P45.

Closed systems for applying pesticides have been shown to reduce the incidence of illnesses among pesticide mixers and loaders. This article discusses the use and design of closed systems.

134

Recognition and Management of Pesticide Poisonings. Donald P. Morgan. Washington, D.C.: U.S. Environmental Protection Agency, 4th edition, 1989. 207 p. NAL Call No.: RA1270.P4M6 1989.

The purpose of this handbook is to educate health professionals on the health hazards of pesticides and provide them with emergency management procedures for short-term, acute effects of pesticide poisonings.

135

Safe Handling of Agricultural Pesticides. Bringle Jennings. *EL* (612). Little Rock, AR: Cooperative Extension Service, University of Arkansas, July 1988. 11 p. NAL Call No.: 275.29 AR4EL.

This leaflet outlines safety guidelines for choosing, handling, applying, storing, and disposing of pesticides. First aid instructions, symptoms of pesticide poisoning, and information on pesticide spills and fires are included.

136

"Update on Hospitalized Pesticide Poisonings in South Carolina, 1983-1987." S.H. Schuman, N.H. Whitlock, S.T. Caldwell, and P.M. Horton. *The Journal of the South Carolina Medical Association*, February 1989, pp. 62-66.

A survey of the medical records of 76 general care hospitals in South Carolina indicated 312 admissions for pesticide poisonings from 1983 to 1987. The number of pesticide poisonings decreased by 20% during this period. One half of these poisonings were not occupationally related.

137

Work Smart—Work Safely—with Farm Chemicals (Trabaje Concientemente—Trabaje con Cautela—Cuando Trabaje con Productos Quimicos para la Agricultura). Washington, D.C.: National Agricultural Chemicals Association, 1985. 28 p. NAL Call No.: S585.8.W6.

This booklet, written in English and Spanish, summarizes and illustrates guidelines for working with farm chemicals in the field. Safety tips for responding to pesticide exposure are included.

AUDIOVISUAL MATERIALS: General Information

138

Agricultural Accidents and Rescue. University Park, PA: Division of Learning and Telecommunications, Pennsylvania State University, 1983. 12 videocassettes (VHS). 16-60 minutes each. Available from Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

Videos in this series are entitled, "An Introduction," "Cornpickers," "Grain Combines," "Grain Storage," "Hay Baling-Conventional Baler," "Hay Baling-Large Round Baler," "Manure Storage," "Operating Tractors," "Power-Take-Off," "Silage Wagons," "Silos," and "Tractors."

139

AgriHealth. Marshfield, WI: National Farm Medicine Center, 1986. 5 videocassettes (VHS). Approximately 15 minutes each. Available from the National Farm Medicine Center, 1000, North Oak Avenue, Marshfield, WI 54449, 715/387-9298.

The goal of these videos is to provide agricultural students with an overview of farm safety issues. The titles of the series are "Introduction to Rural American Lifestyles," "Weather's Effect on Health," "The Hazardous Workplace," "Seconds Saves Lives," and "Man and Animal: A Healthy Co-existence." The program is appropriate for high school, vocational, technical, and adult education classes.

140

FARMSAFE: Focus on Agricultural Health Series. Cooperstown, NY: Bassett Farm Safety and Health Project, 1987. 12 videocassettes (VHS). 20-60 minutes each. The series is available from Mary Imogene Bassett Hospital, Cooperstown, NY 13326, 607/547-6023.

The titles of these videotapes are "Agricultural Injuries and Children," "Recognizing Workplace Hazards on the Farm," "First Response to Farm Injuries," "Personal Protective Equipment," "Tractor Overturns," "Electrocution Hazards," "Job Safety Analysis: Job Instruction Training for Farmers," "Safety, On the Farm But Off the Job," "Respiratory Hazards on the Farm," "Power Take Off Injuries," "Farm Family Stress," and "Economic Impact of Farm Injuries." The videotapes are available for sale or rent.

141

Farm Safety: Facing the Challenge. Des Moines, IA: Farm Division of the Iowa Attorney General's Office, 1989. 1 videocassette (VHS). 26 1/2 minutes. Available from Farm Safety for Just Kids, P.O. Box 458, 130 East First, Earlham, IA 50072, 515/758-2827.

Following a message from the Iowa Attorney General, this video describes first aid techniques for bleeding, shock, and heart attacks. The hazards of farm equipment and chemicals and proper responses to accidents involving them are outlined. The video encourages accident prevention and provides names of organizations to contact for further information on farm safety.

142

Farm Safety Video. Lancaster, WI: Grant County Nurses Office, 1989. 1 videocassette (VHS). 18 minutes. Available from Grant County Nurses Office, 111 South Jefferson, Lancaster, WI 53813, 608/723-6416.

This video provides farm safety information and farm injury statistics for Grant County, Wisconsin. Farmers and their families, a local doctor, and the lieutenant governor are interviewed.

computer software is available by contacting them at 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

143

Film and Slide Set Directory on Agricultural Safety and Health. Iowa Farm Safety Council, Inc., 1988. Available from Gary L. Downey, Grinnell Mutual Reinsurance Company, 1-80 at Highway 146, P.O. Box 790, Grinnell, IA 50112, 515/236-6121.

This brochure lists over 100 audiovisual materials on agricultural safety and health, many of which are available at no cost.

144

Rural Health Series. Iowa City, IA: Institute of Agricultural Medicine and Occupational Health, 1983. 5 videocassettes (VHS). 17-36 minutes each. Each tape is available from the Department of Preventive Medicine, Institute of Agricultural Medicine and Occupational Health, University of Iowa, AMRF, Iowa City, IA 52242, 319/335-4415.

Intended primarily for physicians, this series covers transmission, prevention, diagnosis, and treatment of major health problems unique to agricultural workers. The titles of the videotapes are "Agricultural Trauma," "Pesticide Toxicology," "Respiratory and Skin Problems," "Zoonotic Diseases #1," and "Zoonotic Diseases #2."

The Media Services Distribution Center of Cornell University offers an extensive collection of resources on farm safety and other agricultural topics. A list of relevant films, videotapes, audiotapes, slides and

Audiovisual Materials: Children

145

Child Safety on the Farm. Guelph, Ontario: Farm Safety Association, Inc., 1987. 1 videocassette (VHS). 11 minutes. Available from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

The video includes a tour of a typical Ontario farm showing the various hazards that exist. Narrated by a child, the video discusses the number of children who have had serious farm accidents.

146

Kids Talk Farm Safety Stuff. Cedar Rapids, IA: Dow-Elanco, 1991. 1 videocassette (VHS). 7 minutes. Available from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2827.

This short videotape addresses farm safety from a child's point of view. Children discuss many hazards on the farm, including animals and farm equipment.

147

Making Farms Safe for Kids. Des Moines, IA: Meredith Video Publishing, 1989. 1 videocassette (VHS). NAL Call No.: Videocassette No. 686. 18 minutes. Available from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2827.

This videotape reviews statistics on farm injuries among children and describes many farm hazards, including agricultural chemicals, farm ponds, machinery, dust, and noise. Parents are encouraged to provide adequate training and supervision to children and to give them tasks that are appropriate for their ages. The video tests the viewer's ability to identify unsafe practices and outlines 15 steps for preventing accidents.

Audiovisual Materials: Machinery

148

Farm Machinery Accidents. R.D. Schnieder. Lincoln, NE: Lincoln Medical Foundation Video Productions, 1987. 1 videocassette (VHS). 18 minutes. Available from Rollin Schnieder, Extension Farm Safety Specialist, University of Nebraska, Lincoln, NE 68583, 402/472-3951.

This video discusses the techniques that a rescue team uses when arriving at the scene of an accident involving farm machinery.

149

John Deere Consolidated Safety Videotapes. East Moline, IL: John Deere, 1989. 1 videocassette (VHS). 84 minutes/English; 54 minutes/Spanish. Available from Deere and Company, Distribution Service Center, Safety Films Department, 1400 13th Street, East Moline, IL 61244, 309/765-2725.

The English version contains eleven segments addressing topics such as bypass starting, warning signs, positive safety attitudes, and safety with combines, tractors, and mowers. The Spanish version has five segments including cotton picker safety.

150

Tractor Overturn, Auger, and PTO. Lincoln, NE: University of Nebraska, 1989. 3 videocassettes (VHS). 20-22 minutes each. Each is available from Rollin Schnieder, Extension Farm Safety Specialist, University of Nebraska, Lincoln, NE 68583, 402/472-3951.

Each of these videos discuss the techniques to use when arriving on the scene of an accident involving an overturned tractor, auger, or PTO.

151

Tractor Safety Begins with You. Santa Clarita, CA: Kubota Tractor Corporation, 1985. 1 film. 20 minutes. Available from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

This film dramatizes three common types of tractor accidents, demonstrating how novices and experienced tractor operators are equally likely to ignore safety precautions. Produced under strict safety standards, the film offers detailed explanations of procedures for operating tractors safely.

152

Why Did Tommy Die? Guelph, Ontario: Ontario Ministry of Agriculture and Food for Farm Safety Association, Inc., 1980. 1 film reel. 10 minutes. Available from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

This video explores the principal causes of tractor injuries and fatalities. Demonstrations of tractor fires, P.T.O. accidents, and tractor rollovers are included.

Audiovisual Materials: Electrical

153

Stray Voltage. Ithaca, NY: Cornell University, 1989. 1 videocassette (VHS). 13 minutes. Available from Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-2090.

This video discusses the potential problems of stray voltage on dairy farms. It explains how and why it occurs, describes ways to detect stray voltage, and gives possible solutions.

Audiovisual Materials: Chemical

154

Chemical Safety for General Service Workers. J.W. Appling, J.A. Crawford, and J.A. Goodloe. Ithaca, NY: Cornell University, 1985. 1 videocassette (VHS). 15 minutes. Available from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

This videotape is designed for anyone who works with chemicals but does not need highly technical information. Information on how chemicals enter and affect the body, symptoms of chemical exposure and injury, protective equipment and use, and emergency procedures are included. This videotape is also available as a slide set.

155

Closed Systems for Handling Liquid Pesticides: Improved Safety for Pesticide Applicators. Ithaca, NY: Cornell University AV Center, 1985. 17 minutes. Available from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660. NAL Call No.: Slide No. 285.

This slide presentation explains the procedures for using the closed system for handling pesticides. According to the producers, the closed system is the safest method of applying chemicals currently available. A sound cassette, 71 slides, and a script are enclosed.

156

Farm Chemical Safety is in Your Hands (Rev.). Washington, D.C.: Farmland Industries, 1989. 1 videocassette (VHS). 12 1/2 minutes. Available from the National Agricultural Chemicals Association, 1155 15th Street, NW, Suite 900, Washington, DC 20005, 202/296-1585. NAL Call No.: Videocassette No. 761.

This videotape discusses toxicity, labeling information, protective clothing and equipment, and general safety behavior for using agricultural chemicals.

157

On-farm Ag Chemical Safety: Farm Family Chemical Safety. St. Louis, MO: Monsanto Company, 1989. 1 videocassette (VHS). 25 minutes. Available from Monsanto Company, c/o Dan Holman, 800 North Lindbergh, Mail Zone C2SB, St. Louis, MO 63167, 800/833-8245. NAL Call No.: Videocassette No. 703.

Topics of this video include 17 safe chemical handling rules, understanding labels, wearing protective clothing, assessing pesticide inventory and storage facilities on the farm, and developing an emergency response plan. The module also contains emergency checklists and other forms.

158

Pesticides: The Double Edged Sword. Guelph, Ontario: Farm Safety Association, Inc., 1980. 1 videocassette (VHS). 8 minutes. Available from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

This video depicts some of the hazards associated with handling pesticides and discusses safety precautions.

159

Safe Chemical Handling and Environmental Protection. St. Louis, MO: Monsanto Company, 1989. 1 videocassette (VHS). 30 minutes. Available from Monsanto Company, c/o Dan Holman, 800 North Lindbergh, Mail Zone C2SB, St. Louis, MO 63167, 1-800-833-8245. NAL Call No.: Videocassette No. 700.

This kit consists of a videotape, an illustrated workbook, and quiz questions and answers. Safe handling of agricultural chemicals, pesticide regulations and labels, material safety data sheets, and ways to reduce exposure and protect the environment are discussed.

160

Safe Handling of Pesticides. M. Zavala. Davis, CA: Cooperative Extension Service, University of California-Davis, 1984. UCD, 84-128.1441. 15 minutes. Available from Visual Media, Research Park Drive, Room 131, University of California-Davis, Davis, CA 95616, 916/757-8980. NAL Call No.: Slide No. 294.

Designed for the non-certified pesticide handler, this slide/tape set covers symptoms of pesticide poisoning, first aid procedures, protective clothing, common-sense ways of avoiding exposure, and personal hygiene. A sound cassette, 115 slides, and a script are included. A Spanish version is also available (NAL Call No.: Slide No. 295).

161

Working Safely with Pesticides (Trabajando en una Forma Segura con Pesticidas). T. Cordell and G. Cramer. Tuscon, AZ: Agricultural Sciences Communications, College of Agriculture, University of Arizona, 1989. 1 videocassette (VHS). 35 minutes. Available from Agricultural Sciences Communications, College of Agriculture, University of Arizona, 17 North Park, Tuscon, AZ, 602/621-7176. NAL Call No.: Videocassette No. 926.

Also available in Spanish, this videotape gives eight tips for safe pesticide usage. Topics include protective clothing, storage and disposal methods, toxicity, and pesticide labels.

NATIONAL AND REGIONAL AGRICULTURAL HEALTH AND SAFETY ORGANIZATIONS

- **Agency for Toxic Substances and Disease Registry (ATSDR)**
Division of Health Education
1600 Clifton Road, NE
Atlanta, GA 30333
404/639-0607

ATSDR is a federal public health agency whose objective is to prevent or mitigate adverse human effects and diminished quality of life resulting from exposure to hazardous substances in the environment. The agency conducts activities in the areas of public health assessments, health investigations, exposure and disease registries, emergency response, toxicological profiles, health education, and applied research.

- **Agromedicine Program**
Medical University of South Carolina
171 Ashley Avenue
Charleston, SC 29425
803/792-2281

Established in 1984, the mission of the Agromedicine Program is to promote safer, healthier and more efficient production of food and fiber using the latest advances in agricultural technology, integrated pest management, and preventive medicine. The Agromedicine program offers educational materials on agricultural medicine and uses a network of consulting physicians as a local resource to communities.

- **American Farm Bureau Federation**
225 Touhy Avenue
Park Ridge, IL 60068
312/399-5700

The American Farm Bureau Federation is a voluntary organization whose members are farmers and ranchers and their families. Its foundation is the more than 2,700 county Farm

Bureaus which offer programs and services to farm families. State Farm Bureaus often have agricultural safety and health resources. The national office maintains a list of the state bureaus.

- **American Society of Agricultural Engineers (ASAE)**
2950 Niles Road
St. Joseph, MI 49085
616/429-0300

ASAE is a technical, scientific and educational society dedicated to the betterment of agriculture through improved application of engineering principles. It develops voluntary standards for agricultural industries, sponsors international conferences and symposiums, and issues many publications. ASAE is divided into nine technical areas: aquacultural engineering, bioengineering, electrical and electronic systems, food and process engineering, forest engineering, knowledge systems, power and machinery, soil and water, and structures and environment.

- **Breaking New Ground**
Purdue University
Department of Agricultural Engineering
West Lafayette, IN 47907
317/494-1191

Breaking New Ground provides information on rehabilitation technology for farmers with disabling conditions. Its resource center offers a wide variety of materials such as worksite modifications, adaptive tools and rural independent living skills. The Center has a newsletter, technical manuals, reports, and audio-visual materials. With the support of the Indiana Easter Seal Society, the Outreach Program provides rehabilitation services to rural and farm families throughout Indiana.

- **Farmworker Justice Fund, Inc.**
2001 S Street, NW, Suite 210
Washington, D.C. 20009
202/462-8192

The Farmworker Justice Fund is an advocacy organization for migrant and seasonal farmworkers that focuses on such issues as wages and working conditions, immigration rights, occupational safety and health, and access to legal services. The Fund is involved in litigation, education, and monitoring and advocacy in administrative agencies and Congress.

- **Farm Family Rehabilitation Management Program (FaRM)**
Easter Seal Society of Iowa, Inc.
P.O. Box 4002
Des Moines, IA 50333
515/289-1933

The FaRM program provides assistive technology and support services to enable disabled farmers to continue farming. Their services include worksite modification consultation, coordination of services, independent living services, information and referral, peer support, alternative agriculture exploration, a peer technology support network, an ingenuity network, and a mobile rural assistive technology unit.

- **Farm Safety Association**
Suite 22-23
340 Woodlawn Road West
Guelph, Ontario N1H 7K6
Canada
519/823-5600

This Canadian organization, established in 1973 under the Workers' Compensation Act, provides information on a variety of farm safety issues. Its services include publications and audiovisual materials, consulting, seminars, and research. An educational program catalog is also available.

- **Farm Safety for "Just Kids"**
716 Main Street
P.O. Box 458
Earlham, IA 50072
515/758-2827

This grassroots organization provides resource materials and establishes local groups focused on child farm safety. Its goal is to inform and educate concerned persons, organizations and groups about the importance of farm safety. One project involves placing warning stickers on dangerous farm equipment. Members receive the Just Kids quarterly newsletter listing developments in farm accident prevention. Local chapters will soon be established in eight states Iowa, California, Indiana, Missouri, New York, North Dakota, Ohio, and Wisconsin.

- **High Plains Inter-Mountain Center for Agricultural Health and Safety (HI-CASH)**
Colorado State University
110 Veterinary Science Building
Fort Collins, CO 80523
800/622-8673

HI-CASH is a multidisciplinary center whose goal is to reduce or eliminate the incidence of injuries, disease, and death from agricultural operations. With support from the National Institute for Occupational Safety and Health (NIOSH), the center provides technical assistance, applied research on agricultural hazards, and educational workshops and materials.

- **Migrant Health Program**
Bureau of Health Care Delivery and Assistance
Room 7A-55, Parklawn Building
5600 Fishers Lane
Rockville, MD 20857
301/443-1153

This Migrant Health Program oversees the activities of 105 Migrant Health Centers with 400 service delivery sites. These centers provide comprehensive primary health care to an es-

estimated 500,000 migrant and seasonal farmworkers and their families.

- **National Agricultural Chemicals Association (NACA)**
1155 15th Street, N.W.
Suite 900
Washington, D.C. 20005
202/296-1585

NACA represents organizations that produce agricultural chemical products. Its publications include a bimonthly newsletter, periodic newsletters and manuals on the use of agricultural chemicals.

- **National Coalition for Agricultural Safety and Health (N-CASH)**
301 E. Armour Blvd.
Suite 420
Kansas City, MO 64111
816/756-3140

N-CASH, an affiliate of the National Rural Health Association, is a forum for diverse groups and individuals interested in rural and agricultural occupational health and safety issues, as well as general environmental concerns. Services provided to members include advocacy, peer consultation and networking, meetings and seminars, and regular communications on agricultural occupational safety and health issues and trends.

- **National Easter Seal Society**
Office of Public Affairs
1350 New York Avenue, NW, Suite 915
Washington, D.C. 20005
202/347-3066

The National Easter Seal Society is a nonprofit, community-based organization serving persons of all ages with all types of disabilities. Through a nationwide affiliate network, Easter Seals serves more than one million people annually with rehabilitation services, technological assistance, prevention programs, advocacy, and public

education. A number of Easter Seal societies are providing education and assistance to farmers, ranchers, and other agricultural workers and their families in cooperation with State Extension Service agencies.

- **National Farm Medicine Center**
510 North St. Joseph Avenue
Marshfield, WI 54449
715/387-9298

Established in 1981 as a program of the Marshfield Medical Research Foundation, the Center works toward the resolution of disease and injury problems confronting rural Americans through research, education, and clinical and community services. Supported by NIOSH, its resources include a five-part video program and periodic updates on various farm safety topics.

- **National Institute for Occupational Safety and Health (NIOSH)**
Technical Information Branch (TIB)
4676 Columbia Parkway, Mail Stop C-19
Cincinnati, OH 45226
800/356-4674

Formerly the Clearinghouse for Occupational Safety and Health Information, TIB provides technical information support for NIOSH and general information for the public. Their services include reference and referral, interlibrary loans, and information about NIOSH studies. A catalog of NIOSH publications is available upon request. NIOSH has funded the following programs:

- * Centers for Agricultural Research, Education, and Disease and Injury Prevention;
- * Cooperative Agreement Program for Agricultural Health Promotion System;
- * Demonstration Cancer Control Projects for Farmers;
- * Educational Resources for Agricultural Safety and Health;
- * Farm Family Health and Hazard Survey;

- * Occupational Health and Safety Surveillance Through Health Departments and Nurses in Agricultural Communities, and
- * Sentinel Event Notification System for Occupational Risks.

Information on these programs is available on ALF, NAL's bulletin board. Check the RIC/RICHs conference for the Agricultural Health and Safety Programs and Activities Bulletin. An ALF user fact sheet follows this list of organizations.

- **National Institute for Farm Safety (NIFS)**
205 Ag Engineering Building
Columbia, MO 65211
314/882-2731

NIFS is the professional organization of agricultural health and safety specialists working toward preventing agricultural accidents through educational and scientific activities. Its members include agricultural safety professionals from industry, government, universities, Farm Bureau's and insurance companies. NIFS sponsors annual professional meetings, supports farm safety and health research, and publishes a bimonthly newsletter for members.

- **National Migrant Resource Program, Inc. (NMRP)**
2512 South IH35, Suite 220
Austin, TX 78704
512/447-1666

NMRP provides information, technical assistance, and medical referral services to health care providers serving migrant and seasonal farmworkers. The health information NMRP distributes includes occupational safety and health resources. NMRP provides administrative support to the Migrant Clinicians Network, a national network of migrant health care providers. This network produces clinical updates and functions as a resource for its members.

- **National Pesticide Telecommunications Network**
Department of Preventive Medicine
TTUHSC
Lubbock, TX 79430
800/858-7378 or 806/743-3091

A service of the Environmental Protection Agency and Texas Tech University, the network responds to non-emergency questions about the effects of pesticides, toxicology and symptoms, environmental effects, disposal and cleanup, and safe use of pesticides.

- **National Safety Council**
Customer Service Department
P.O. Box 11933
Chicago, IL 60611
800/621-7619, ext. 1300

The Council is a nonprofit, nongovernmental organization that promotes safety and health through the exchange of research, techniques and experience. Its divisions include agriculture, community safety, highway traffic safety, home, industry, labor, motor transportation, public safety, state and local safety organizations. The Council offers numerous publications, educational resources, and newsletters. There are 82 state chapters.

- **New York Center for Agricultural Medicine and Health (NYCAMH)**
One Atwell Road
Cooperstown, NY 13326
607/547-6023

NYCAMH is a state-funded, nonprofit organization that promotes agricultural safety and health in the areas of research, education, outreach and medical care. Its services include a library, an information center, and an occupational health clinic specifically for farmers. The center offers books, journals, videotapes and personalized research.

Agricultural Safety and Health: A Resource Guide

- **New York State Rural Health and Safety Council, Inc.**
Cornell University
Riley-Robb Hall
Ithaca, NY 14853
607/255-0150

The Council is a nonprofit, statewide organization dedicated to preventing accidents, reducing the severity of injuries, and improving wellness in rural communities of New York State. It provides educational exhibits, research, statistical data, and audiovisual materials. Together with the Cornell Cooperative Extension, the Council offers a technology transfer program in which five professionals provide accident prevention and health programs throughout the state.

- **Occupational Safety and Health Administration (OSHA)**
U.S. Department of Labor
Farm Safety
200 Constitution Avenue, NW
Washington, D.C. 20210
202/523-7031

OSHA's mission is to ensure safe and healthful working conditions for over 90 million workers, including agricultural workers, through the enforcement of regulations, education and training efforts, and consultation programs. OSHA-supported consultation services, which are voluntary and free of charge, are available in all states and territories. In addition, there are ten collateral-duty OSHA Agricultural Outreach Coordinators with one in each region. They are the core OSHA field representatives in agriculture. A list of the Outreach Coordinators is available on ALF, NAL's electronic bulletin board. Check the RIC/RICHs conference for the Agricultural Health and Safety Programs and Activities Bulletin. An ALF user fact sheet follows this list of organizations.

- **Rural and Farm Family Vocational Rehabilitation Program**
Morris Hall
University of Vermont
Burlington, VT 05405-0106
802/656-3013

A cooperative program of the University of Vermont Extension Service and the Vermont Division of Vocational and Rehabilitative Services, this program offers evaluation, counseling, and assistance in job placement to members of rural and farm families with disabilities.

- **Rural Information Center Health Service (RICHS)**
A part of the Rural Information Center (RIC)
U.S. Department of Agriculture
National Agricultural Library
Room 304
Beltsville, MD 20705
800/633-7701

RICHS was created jointly by the Federal Office of Rural Health Policy and the National Agricultural Library. RICHS collects and disseminates information on rural health issues, research findings related to rural health, and innovative approaches to the delivery of rural health care services. RICHS also maintains rural health information on ALF and provides customized information searches and referrals on agricultural health and safety topics. The toll-free information line is available Monday through Friday, 8:00 a.m. to 4:30 p.m., EST.

- **Rural Institute on Disabilities**
52 North Corbin Hall
University of Montana
Missoula, MT 59812
406/243-5467 or 800/723-0323

The Rural Institute is an interdisciplinary center that conducts service, training, technical assistance, research, and information dissemination activities to increase the quantity and quality of

Rural Information Center Publication Series

services for individuals with disabilities in rural areas. The Rural Disability Information Service provides a variety of educational materials.

- **UC Agricultural Health and Safety Center**
University of California-Davis
Davis, CA 95616
916/752-4050

With support from NIOSH, the Center undertakes research on occupational and environmental health and safety issues in agriculture. It provides outreach to communities and organizations through service, information and education, and training for professionals and service providers. The Center sponsors a continuing series of meetings and forums and publishes a quarterly newsletter.

- **U.S. Environmental Protection Agency (EPA)**
Occupational Safety Branch, H7506C
401 M Street, SW
Washington, D.C. 20460
703/557-7666

The Occupational Safety Branch of EPA distributes pesticide safety educational materials, including safety handbooks, safety posters, and slide tape and video programs.

- **Worksafe Iowa**
Institute of Agricultural Medicine and Occupational Health
University of Iowa
Iowa City, IA 52242
319/335-4422

Worksafe Iowa offers industrial hygiene and medical consultation services, educational services and an information network (WIIN). WIIN provides health and safety fact sheets, audiovisual materials, programs and displays available to farm families, agribusinesses, and agricultural organizations for a minimal fee. Worksafe Iowa has received support from NIOSH. The National Coalition for Agricul-

tural Safety and Health is affiliated with Worksafe Iowa.

It is also recommended that you contact the farm safety specialist with the Cooperative Extension Service at your state land grant university. A list of these contacts is available on ALF, NAL's electronic bulletin board. Check the RIC/RICHs conference for the Agricultural Health and Safety Programs and Activities Bulletin. An ALF user fact sheet follows this list of organizations.

ALF

Accessing Rural Development and Rural Health Information

What is ALF?

ALF (Agricultural Library Forum) is an electronic bulletin board which provides access to information and allows users to share information. The Rural Information Center, which is located at the National Agricultural Library, maintains a section on ALF which includes rural health and rural development information. You can use ALF to network with your colleagues, learn about upcoming conferences and new grant opportunities, and retrieve a variety of rural health and rural development information files. ALF is available 24 hours a day, seven days a week. There is no subscription or usage fee other than the telecommunications charges.

Accessing ALF

To access ALF, you need a computer, a modem and communications software. The ALF telephone numbers for baud rates up to 9600 are area code (301) 504-6510, 504-5111 or Federal Telephone System (FTS) 964-6510, 964-5111. ALF telephone numbers for baud rates up to 2400 are area code (301) 504-5496, 504-5497 or FTS 964-5496, 964-5497. Software settings are as follows: data bits - 8; stop bit - 1; parity - none; duplex - full. Once you connect with ALF, you will be asked a series of questions concerning your registration on the system and your equipment specifications. Some of the questions pertain to the use of graphics, color or highlighting. Answer "none" or "no" to the options regardless of the capabilities of your equipment.

Bulletins

When you first sign on to ALF, you are in the main ALF bulletin board. You will see announcements about new messages, bulletins and files generally pertaining to agricultural topics. If you prefer to go directly to the rural health or rural development information, just answer "No" to the questions until a main menu appears. Select the [J]oin Conferences command from the menu. A list of conferences will display. Press the Return or Enter key to see the end of the list, then type "RIC." You will see announcements pertaining to the RIC/RICHs sub-board. From the RIC/RICHs menu, select [B]ulletins. A list of available information will display as numbered bulletins.

Output

Your output choices include: 1) viewing or printing the information screen by screen or in a continuous fast scroll, 2) saving information onto your disk as you view by using your communications software capture or save feature, or 3) downloading bulletins or files to a floppy or hard disk. Instructions for downloading the bulletins appear at the top of the RIC/RICHs bulletin list or as part of the "Help" command. You may want to print the instructions for easy reference. To determine if you would like to download the entire file, view a couple of screens, then abort and download to your disk. Choosing option 2 or 3 will save time.

Messages

You can send messages in both the main bulletin board on ALF and within the RIC/RICHs sub-board. For health communications, the latter is recommended since it is a smaller bulletin board and will not be cluttered with irrelevant messages. To begin, select [E]nter a message from the main menu.

Three types of messages exist, depending on the level of confidentiality preferred. All messages can be read by the sysop (systems operator).

- **Public messages** can be read by anyone and are a good method for posing a question or sharing general interest information. Sending a public message is essentially the public conferencing capability on a bulletin board.
- **Private messages** can be read by the sender or the addressee. If you are sending a private message, you must know how the addressee is registered in ALF. If you address the private message to some variant of his/her registered name, the recipient cannot access that message.
- **Password protected messages** can be read only by the persons who can give the password assigned to the particular message. You can establish a private conference by addressing a message to a group if all parties within that group know the password. For example, if you address a message to "STATE OFFICES," the system responds that STATE OFFICES is not an active user. However, you have the option to continue. Enter the message and assign a password. Only those who can supply the password can access the message.

IMPORTANT: [K]ill messages addressed only to yourself or outdated messages that you have sent.

Help

The [H]elp command is an option on the main menu of the bulletin board. After you select the help command, the system lists the topics on which help is available.

An ALF manual gives detailed explanations of registration procedures, menu options, message commands and file transfers. The manual is available from RIC/RICHs.

For any additional help, contact RIC/RICHs on our toll free telephone number, 1-800-633-7701, Monday through Friday 8 a.m. to 4:30 p.m., Eastern Time.



Document Delivery Services to Individuals

The National Agricultural Library (NAL) supplies agricultural materials not found elsewhere to other libraries.

Filling requests for materials readily available from other sources diverts NAL's resources and diminishes its ability to serve as a national source for agricultural and agriculturally related materials. Therefore, NAL is viewed as a library of last resort. Submit requests first to local or state library sources prior to sending to NAL. In the United States, possible sources are public libraries, land-grant university or other large research libraries within a state. In other countries submit requests through major university, national, or provincial institutions.

If the needed publications are not available from these sources, submit requests to NAL with a statement indicating their non-availability. Submit one request per page following the instructions for libraries below.

NAL's Document Delivery Service Information for the Library

The following information is provided to assist your librarian in obtaining the required materials.

Loan Service — Materials in NAL's collection are loaned only to other U.S. libraries. Requests for loans are made through local public, academic, or special libraries.

The following materials are not available for loan: serials (except USDA serials); rare, reference, and reserve books; microforms; and proceedings of conferences or symposia. Photocopy or microform of non-circulating publications may be purchased as described below.

Document Delivery Service — Photocopies of articles are available for a fee. Make requests through local public, academic, or special libraries. The library will submit a separate interlibrary loan form for each article or item requested. If the citation is from an NAL database (CAIN/AGRICOLA, *Bibliography of Agriculture*, or the NAL Catalog) and the call number is given, put that call number in the proper block on the request form. Willingness to pay charges must be indicated on the form. Include compliance with copyright law or a statement that the article is for "research purposes only" on the interlibrary loan form or letter. Requests cannot be processed without these statements.

Charges:

- Photocopy, hard copy of microfilm and microfiche — \$5.00 for the first 10 pages or fraction copied from a single article or publication. \$3.00 for each additional 10 pages or fraction.
- Duplication of NAL-owned microfilm — \$10.00 per reel.
- Duplication of NAL-owned microfiche — \$ 5.00 for the first fiche and \$.50 for each additional fiche per title.

Billing — Charges include postage and handling, and are subject to change. Invoices are issued quarterly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. Establishing a deposit account with NTIS is encouraged. **DO NOT SEND PREPAYMENT.**

Send Requests to:

USDA, National Agricultural Library
Document Delivery Services Branch, 6th Fl.
10301 Baltimore Blvd.
Beltsville, Maryland 20705-2351

Contact the Head, Document Delivery Services Branch in writing or by calling (301) 504-5755 with questions or comments about this policy.

ELECTRONIC MAIL ACCESS FOR INTERLIBRARY LOAN (ILL) REQUESTS

The National Agricultural Library (NAL), Document Delivery Services Branch accepts ILL requests from libraries via several electronic services. All requests must comply with established routing and referral policies and procedures. The transmitting library will pay all fees incurred during the creation of requests and communication with NAL. A sample format for ILL requests is printed below along with a list of the required data/format elements.

ELECTRONIC MAIL - (Sample form below)

SYSTEM _____ **ADDRESS CODE** _____

INTERNETLENDINGBR@ASRR.ARSUSDA.GOV

EASYLINK62031265

ONTYMENAL/LB

TWX/TELEX.....Number is 710-828-0506 NAL LEND. This number may only be used for ILL requests.

FTS2000.....A12NALLEND

OCLCNAL's symbol AGL need only be entered once, but it must be the last entry in the Lender string. Requests from USDA and Federal libraries may contain AGL anywhere in the Lender String.

SAMPLE ELECTRONIC MAIL REQUEST

AG University/NAL ILLRQ 231 9/1/91 NEED BY: 10/1/91

Interlibrary Loan Department
Agriculture University
Heartland, IA 56789

Dr. Smith Faculty Ag School

Canadian Journal of Soil Science 1988 v68(1): 17-27

DeJong, R. Comparison of two soil-water models under semi-arid growing conditions

Ver: AGRICOLA

Remarks: Not available at IU or in region.

NAL CA: 56.8 C162

Auth: C. Johnson CCL Maxcost: \$15.00

MORE

TELEFACSIMILE - Telephone number is 301-504-5675. NAL accepts ILL requests via telefacsimile. Requests should be created on standard ILL forms and then faxed to NAL. NAL does not fill requests via Fax at this time.

REQUIRED DATA ELEMENTS/FORMAT

1. Borrower's address must be in block format with at least two blank lines above and below so form may be used in window envelopes.
2. Provide complete citation including verification, etc.
3. Provide authorizing official's name (request will be rejected if not included).
4. include statement of copyright compliance if applicable.
5. indicate willingness to pay applicable charges.
6. include NAL call number if available.

Contact the Document Delivery Services Branch at (301) 504-6503 if additional information is required.

AGRICULTURAL SAFETY AND HEALTH: A RESOURCE GUIDE

AVAILABILITY AND PRICE LIST*

PUBLICATIONS

General Information

12

Hired Farmworkers: Health and Well-Being at Risk. Washington, D.C.: U.S. General Accounting Office, 1992. 31 p. HRD-92-46. The first five copies are available at no cost from U.S. General Accounting Office, P.O. 6015, Gaithersburg, MD 20877, 202/275-6241.

16

NIOSH Agriculture Bibliography. Washington, D.C.: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, NIOSH, 1991. 35 p. Available at no cost from Technical Information Branch, NIOSH, 4676 Columbia Parkway, Mail Stop C-19, Cincinnati, OH 45226, 800/356-4674.

19

The Occupational Health of Migrant and Seasonal Farmworkers in the United States: Progress Report. Valerie A. Wilk. Washington, D.C.: Farmworker Justice Fund, Inc., 1988. 25 p. Available for \$15 for non-members and \$10 for members (postage included) from the National Rural Health Association, 301 E. Armour Blvd., Kansas City, MO 64111, 816/756-3140.

22

A Report to the Nation: Agricultural Occupational and Environmental Health: Policy Strategies for the Future. James A. Merchant and others, editors. Iowa City, IA: National Coalition for Agricultural Safety and Health, 1988. 67 p. Available for \$5.00 from Conference Secretary, Institute of Agricultural Medicine and Occupational Health, 124 AMRF, Oakdale Campus, University of Iowa, Iowa City, Iowa 52242, 319/335-4415.

Statistics/Research Methods

28

Bibliography with Abstracts on the Epidemiology of Farm Injury. National Farm Medicine Center. Available Fall 1992 at no cost from the Technical Information Branch, NIOSH, 4676 Columbia Parkway, Mail Stop C-19, Cincinnati, OH 45226, 800/356-4674.

32

The National Traumatic Occupational Fatalities: A Surveillance Tool for Agricultural Work-Related Deaths. John R. Myers. Paper, (89-9). Columbia, MO: National Institute for Farm Safety, 1989. 19 p. Available for \$5.00 from National Institute for Farm Safety, 205 Ag Engineering Building, Columbia, MO 65211, 314/882-2731.

Rescue/Emergency Care/Rehabilitation

43

Emergency Medical Treatment: Adults: A Handbook of What to Do in an Emergency to Keep an Adult Alive until Help Arrives. Stephen N. Vogel and David H. Manhoff. Wilmette, IL: EMT, Inc., 1991. 26 p. Distributed for \$7.95 + \$1.00 postage by RPM, Inc., P.O. Box 616, Oshkosh, WI 54902, 800/233-2122.

44

Extinguishing Silo Fires. William C. Arble and Dennis J. Murphy. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1989. 14 p. NRAES, 18. Available for \$2.50 from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

*The citation preceding the entry is the citation used in the resource guide.

45

Farm Accident Rescue. L. Dale Baker, William E. Field, Rollin Schneider, Clair W. Young, Robert A. Parsons, and Dennis J. Murphy. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1986. 35 p. NRAES, 10. Available for \$3.75 from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

46

First on the Scene. Dennis Murphy, John Pollock, Gary Smith, Thomas Bean, and Martin A. Sailus. Ithaca, NY: Northeast Regional Agricultural Engineering Service, Cornell University, 1989. 46 p. NRAES, 12. Available for \$4.50 from Northeast Regional Agricultural Engineering Service, 152 Riley-Robb Hall, Cornell University, Ithaca, NY 14853, 607/255-7654.

Health Education/Prevention

64

The Farm Safety Walkabout Handbook. Cheryl Hawk, Jane Gay, and Kelley J. Donham. Iowa City, IA: Institute of Agricultural Medicine and Occupational Health, 1992. 80 p. Available for \$8.00 from Iowa Department of Public Health (Angie McLaughlin), Disability Prevention, Lucas State Office Building, Des Moines, IA 50319-0075, 515/242-5833.

65

Injury Prevention in America: The Workplace. Anne R. Grant. Washington, D.C.: The Roscoe Pound Foundation, 1991. 65 p. Available for \$20.00 plus \$3.00 shipping and handling (prepaid) from The Roscoe Pound Foundation, 1050 31st Street, NW, Washington, D.C., 202/965-3500.

69

Rural Accident Prevention Bulletins. Chicago, IL: National Safety Council. 29 are listed. Most are 4 pages, 8 1/2 by 11-in., and illustrated. Available for \$.29 for members and \$.35 for nonmembers from National Safety Council, Order Department, P.O. Box 11933, Chicago, IL 60611-0933, 800/621-7619.

Children

75

Emergency Medical Treatment: Children: A Handbook of What to Do in an Emergency to Keep a Child Alive until Help Arrives. Stephen N. Vogel and David H. Manhoff. Wilmette, IL: EMT, Inc., 1989. 28 p. Distributed for \$7.95 + \$1.00 postage by RPM, Inc., P.O. Box 616, Oshkosh, WI 54902, 800/233-2122.

86

"We Kill Too Many Farm Kids." C. Tevis. Des Moines, IA: Meredith Corporation, 1991, 16 p. Reprinted by *Successful Farming*. Available for \$.15 from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2927.

Occupational Risks

89

Agricultural Respiratory Hazards Education Series. West Des Moines, IA: American Lung Association of Iowa, 1986. Available for \$1.50/unit and \$25.00/complete series for the health professional version and \$.50/unit and \$4.50/complete series for the lay version from the American Lung Association of Iowa, Attn: Ag Division, 1025 Ashworth Road, Suite 410, West Des Moines, IA 50265, 515/224-0800.

Machinery

104

Agricultural Safety: Fundamentals of Machine Operation. Third edition. East Moline, IL: Deere and Company, 1987. 334 p. JDDSC, 18103B. Available for \$29.96 from John Deere Distribution Service Center, Safety Films Department, 1400 13th Street, East Moline, IL 61244, 309/765-2725.

Chemical

131

Pesticide Safety and Training Materials Catalog. Washington, D.C.: U.S. Environmental Protection Agency, 1989. 132 p. Available at no cost from Occupational Safety Branch, Field Operations Division (H-750C), Office of Pesticide Programs, U.S. EPA, 401 M Street, SW, Washington, D.C. 20460, 703/557-7666.

AUDIOVISUAL MATERIALS

General Information

138

Agricultural Accidents and Rescue. University Park, PA: Division of Learning and Telecommunications, Pennsylvania State University, 1983. 12 videocassettes (VHS). 16-60 minutes each. Available for \$18 each for rental from Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

139

AgriHealth. Marshfield, WI: National Farm Medicine Center, 1986. 5 videocassettes (VHS). Approximately 15 minutes each. Available for \$35 (single videos) or \$150 (5 videos and teacher's guide) from the National Farm Medicine Center, 1000, North Oak Avenue, Marshfield, WI 54449, 715/387-9298.

140

FARMSAFE: Focus on Agricultural Health Series. Cooperstown, NY: Bassett Farm Safety and Health Project, 1987. 12 videocassettes (VHS). 20-60 minutes each. The series is available for \$480 + \$10 shipping or \$45 per video + \$2 shipping from Mary Imogene Bassett Hospital, Cooperstown, NY 13326, 607/547-6023.

141

Farm Safety: Facing the Challenge. Des Moines, IA: Farm Division of the Iowa Attorney General's Office, 1989. 1 videocassette (VHS). 26 1/2 minutes. Available for \$10.98 from Farm Safety for Just Kids, P.O. Box 458, 130 East First, Earlham, IA 50072, 515/758-2827.

142

Farm Safety Video. Lancaster, WI: Grant County Nurses Office, 1989. 1 videocassette (VHS). 18 minutes. Available for \$20 from Grant County Nurses Office, 111 South Jefferson, Lancaster, WI 53813, 608/723-6416.

144

Rural Health Series. Iowa City, IA: Institute of Agricultural Medicine and Occupational Health, 1983. 5 videocassettes (VHS). 17-36 minutes each. Each tape is available for \$30 rental or \$100 purchase from the Department of Preventive Medicine, Institute of Agricultural Medicine and Occupational Health, University of Iowa, AMRF, Iowa City, IA 52242, 319/335-4415.

Children

145

Child Safety on the Farm. Guelph, Ontario: Farm Safety Association, Inc., 1987. 1 videocassette (VHS). 11 minutes. Available for \$20 (Canadian Funds) from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

146

Kids Talk Farm Safety Stuff. Cedar Rapids, IA: Dow-Elanco, 1991. 1 videocassette (VHS). 7 minutes. Available for \$10.98 from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2827.

147

Making Farms Safe for Kids. Des Moines, IA: Meredith Video Publishing, 1989. 1 videocassette (VHS). NAL Call No.: Videocassette No. 686. 18 minutes. Available for \$10.98 from Farm Safety for Just Kids, P.O. Box 458, Earlham, IA 50072, 515/758-2827.

Machinery

148

Farm Machinery Accidents. 18 minutes. Lincoln, NE: Lincoln Medical Foundation Video Productions, 1987. 1 videocassette (VHS). Rollin D. Schnieder. Available for \$3 rental from Rollin Schnieder, Extension Farm Safety Specialist, University of Nebraska, Lincoln, NE 68583, 402/472-3951.

149

John Deere Consolidated Safety Videotapes. East Moline, IL: John Deere, 1989. 1 videocassette (VHS). 84 minutes/English; 54 minutes/Spanish. Available for \$15.00 (IL residents add 6.25% tax.) from Deere and Company, Distribution Service Center, Safety Films Department, 1400 13th Street, East Moline, IL 61244, 309/765-2725.

150

Tractor Overturn, Auger, and PTO. Lincoln, NE: University of Nebraska, 1989. 3 videocassettes (VHS). 20-22 minutes each. Each is available for \$3 rental or \$25 purchase from Rollin Schnieder, Extension Farm Safety Specialist, University of Nebraska, Lincoln, NE 68583, 402/472-3951.

151

Tractor Safety Begins with You. Santa Clarita, CA: Kubota Tractor Corporation, 1985. 1 film. 20 minutes. Available for \$20 rental from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

152

Why Did Tommy Die? Guelph, Ontario: Ontario Ministry of Agriculture and Food for Farm Safety Association, Inc., 1980. 1 film reel. 10 minutes. Available for \$20 (Canadian Funds) from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

Electrical

153

Stray Voltage. Ithaca, NY: Cornell University, 1989. 1 videocassette (VHS). 13 minutes. Available for \$16 rental and \$36 purchase from Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-2090.

Chemical

154

Chemical Safety for General Service Workers. J.W. Appling, J.A. Crawford, and J.A. Goodloe. Ithaca, NY: Cornell University, 1985. 1 videocassette (VHS). 15 minutes. Available for \$50 rental or \$125 purchase from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660.

155

Closed Systems for Handling Liquid Pesticides: Improved Safety for Pesticide Applicators. Ithaca, NY: Cornell University AV Center, 1985. 17 minutes. Available for \$40 from the Media Services Distribution Center, Cornell University, 7-8 Research Park, Ithaca, NY 14850, 607/255-7660. NAL Call No.: Videocassette No. 285.

156

Farm Chemical Safety is in Your Hands (Rev.). Washington, D.C.: Farmland Industries, 1989. 1 videocassette (VHS). 12 1/2 minutes. Available for \$16.50 from the National Agricultural Chemicals Association, 1155 15th Street, NW, Suite 900, Washington, DC 20005, 202/296-1585. NAL Call No.: Videocassette No. 761.

157

On-farm Ag Chemical Safety: Farm Family Chemical Safety. St. Louis, MO: Monsanto Company, 1989. 1 videocassette (VHS). 25 minutes. Available for \$26 from Monsanto Company, c/o Dan Holman, 800 North Lindbergh, Mail Zone C2SB, St. Louis, MO 63167, 800/833-8245. NAL Call No.: Videocassette No. 703.

158

Pesticides: The Double Edged Sword. Guelph, Ontario: Farm Safety Association, Inc., 1980. 1 videocassette (VHS). 8 minutes. Available for \$20 (Canadian funds) from Order Desk, Farm Safety Association, Inc., 340 Woodlawn Road West, Suite 21-23, Guelph, Ontario, Canada N1H 7K6, 519/823-5600.

159

Safe Chemical Handling and Environmental Protection. St. Louis, MO: Monsanto Company, 1989. 1 videocassette (VHS). 30 minutes. Available for \$26 from Monsanto Company, c/o Dan Holman, 800 North Lindbergh, Mail Zone C2SB, St. Louis, MO 63167, 1-800-833-8245. NAL Call No.: Videocassette No. 700.

160

Safe Handling of Pesticides. M. Zavala. Davis, CA: Cooperative Extension Service, University of California-Davis, 1984. 1 videocassette (VHS). UCD, 84-128.1441. 15 minutes. Available for purchase (\$74) and loan (\$7) from Visual Media, Research Park Drive, Room 131, University of California-Davis, Davis, CA 95616, 916/757-8980. NAL Call No.: Slide No. 294.

161

Working Safely with Pesticides (Trabajando en una Forma Segura con Pesticidas). T. Cordell and G. Cramer. Tuscon, AZ: Agricultural Sciences Communications, College of Agriculture, University of Arizona, 1989. 1 videocassette (VHS). 35 minutes. Available for \$30 from Agricultural Sciences Communications, College of Agriculture, University of Arizona, 17 North Park, Tuscon, AZ, 602/621-7176. NAL Call No.: Videocassette No. 926.

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